JUNE 20, 1960

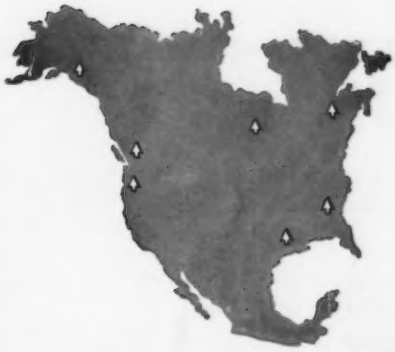
PAPER TRADE JOURNAL

Brand New Log Barker Big News at PIMA Meeting

Newsprint Over-Capacity Will Continue Says BDSA

Symposium Explores All Aspects of Waste Paper Utilization

How Digital Computers Can Help Improve Finishing Operations



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PUBLISHED WEEKLY SINCE 1872

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REMEMBER THESE DATES

August 22-24. TAPPI Alkaline Pulping Conference, Multnomah Hotel, Portland, Ore.

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One in a series of interviews with the men who are "Virginia"

"We offer free mill trials to show the fine results and low cost of groundwood pulp one-stage hydro bleaching—the only cost to the mill is for the hydro"

George V. Rittenhouse (left) and Robert W. Barton

Technical Service Supervisor Bob Barton and District Manager George Rittenhouse, both of Virginia Smelting Company, answer questions about bleaching groundwood pulp with one stage of hydro.

Q Do zinc and sodium hydrosulfites provide the most economical method of one-stage pulp bleaching?

Mr. Barton—If the mill is going for anything between 2 and 11 brightness points, bleaching groundwood pulp with hydro is virtually always the cheapest method. It is easier to apply—there are no control tests involved—and the chemical cost is much lower.

Q Is it difficult to set up a trial run for a mill that might want it?

Mr. Barton—Not usually. Frequently much of the equipment we need is available in the mill. We go in with our lab equipment and make tests, checking the *p*H we're going to deal with, and possibly deciding on the maximum temperature possible. We give all the facts to the mill—and if they want the trial, we set it up. Often the mill has a pulp storage chest. A few changes and we can use it as a bleaching tank. We'll bring in feeders, attach hoses, and start the trial.

Mr. Rittenhouse—Our technical men stay there until the setup is running perfectly and they make sure the operators know everything they need to. You'd be surprised at what we run into sometimes, even in mills that have been bleaching regularly with hydro. They take the powdered hydro and dump it in on top of the stock. Of course, hydro breaks down fast when it is exposed to air, and they wind up with reaction times too short—temperature not showing the proper effect—and poor brightness response at the end. I might add that faulty mixing like this can cause a corrosion problem, too—a problem that does not arise if proper air-free mixing is standard procedure.

Mr. Barton—A good point, George. This is the chief reason why some mills are under the mistaken impression that hydro always causes a corrosion problem. If hydro is handled properly there's no corrosion problem.

Q Isn't a mill trial a pretty extensive service at no charge?

Mr. Rittenhouse—Yes, I suppose so—but I consider it the most effective way of showing a mill the economy and the good results obtainable with hydro. After all, mill trial data offer the most believable evidence of what I say. And production doesn't have to be stopped—we can almost always set up the mill trial without affecting it.

Q What are the advantages to the mill in using a "Virginia" hydro?

Mr. Barton—There are several. One is the consistently uniform quality and purity of our hydro, either the zinc or sodium. It's a very clean, free-flowing powder—made, packed and shipped as moisture-free as modern manufacturing methods can make it.

Mr. Rittenhouse—And of course our technical service goes with it. A mill can always call for assistance and get a "Virginia" technical man. It's the accepted thing with our customers.

• • •

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—just drop us a line, phone or wire, and a representative will call on you at your convenience.

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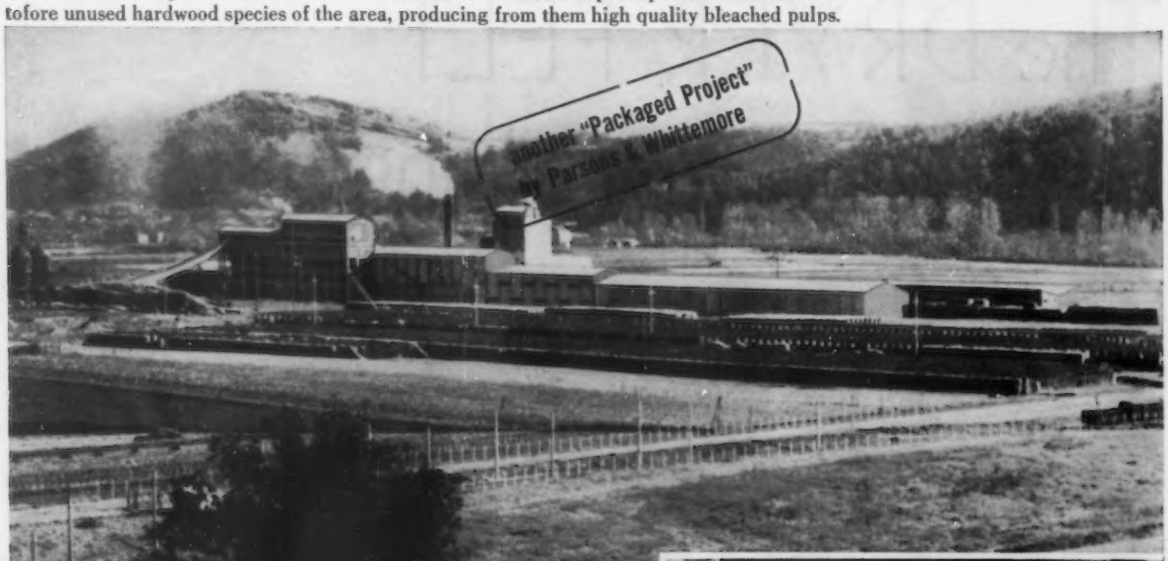
The Cellulose d'Aquitaine mill in Southern France consumes as its principal raw material heretofore unused hardwood species of the area, producing from them high quality bleached pulps.



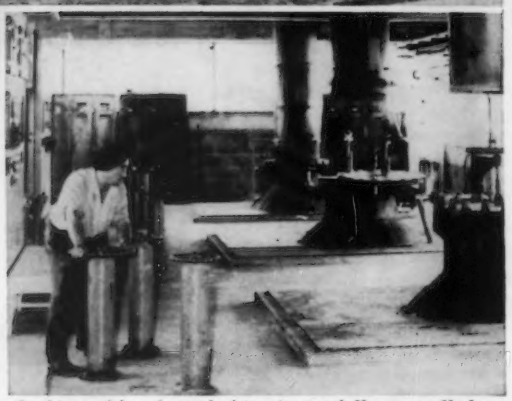
CELLULOSE d'AQUITAINE

First pre-hydrolysis kraft pulp mill in France

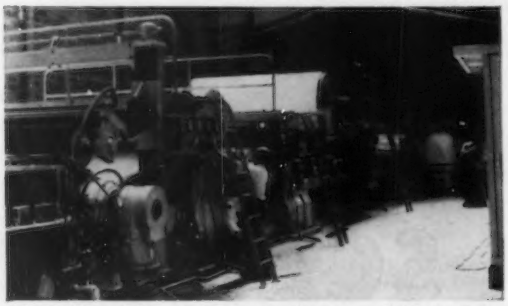
Making France self-sustaining in the production of nitrating grades of cellulose, the mill of Cellulose d'Aquitaine, St. Gaudens, has been in operation since the summer of 1959 and produces up to 120 tons of nitrating pulp or 170 tons of bleached paper grade pulp per day.

The Parsons & Whittemore-Lyddon Organization had full responsibility for design and construction of the plant. It is but one of fourteen mills now in various stages of development for which the Organization provides technical supervision, complete equipment and other important services under a global contract.

Parsons & Whittemore-Lyddon's staff of renowned pulp and paper making experts is backed by the Organization's international machinery manufacturing and sales facilities. Our experts are prepared to assist you in planning, designing, financing, constructing, equipping and operating pulp and paper mills in any country having suitable wood or agricultural fibers. For full information on any or all of these services, write to our nearest office.



Cooking of beechwood chips is carefully controlled on this digester operating floor. Three of the four digesters are shown. All of them are constructed with special alloy lining to permit a pre-hydrolysis cooking stage at extremely low pH values.



The 136" wide Fourdrinier pulp drying machine, built by Black-Clawson, includes cantilever design, modern vacuum equipment and hydraulic press controls.

THE PARSONS & WHITTEMORE / LYDDON ORGANIZATION

World leaders in the development of pulp and paper mills for the use of local fibers

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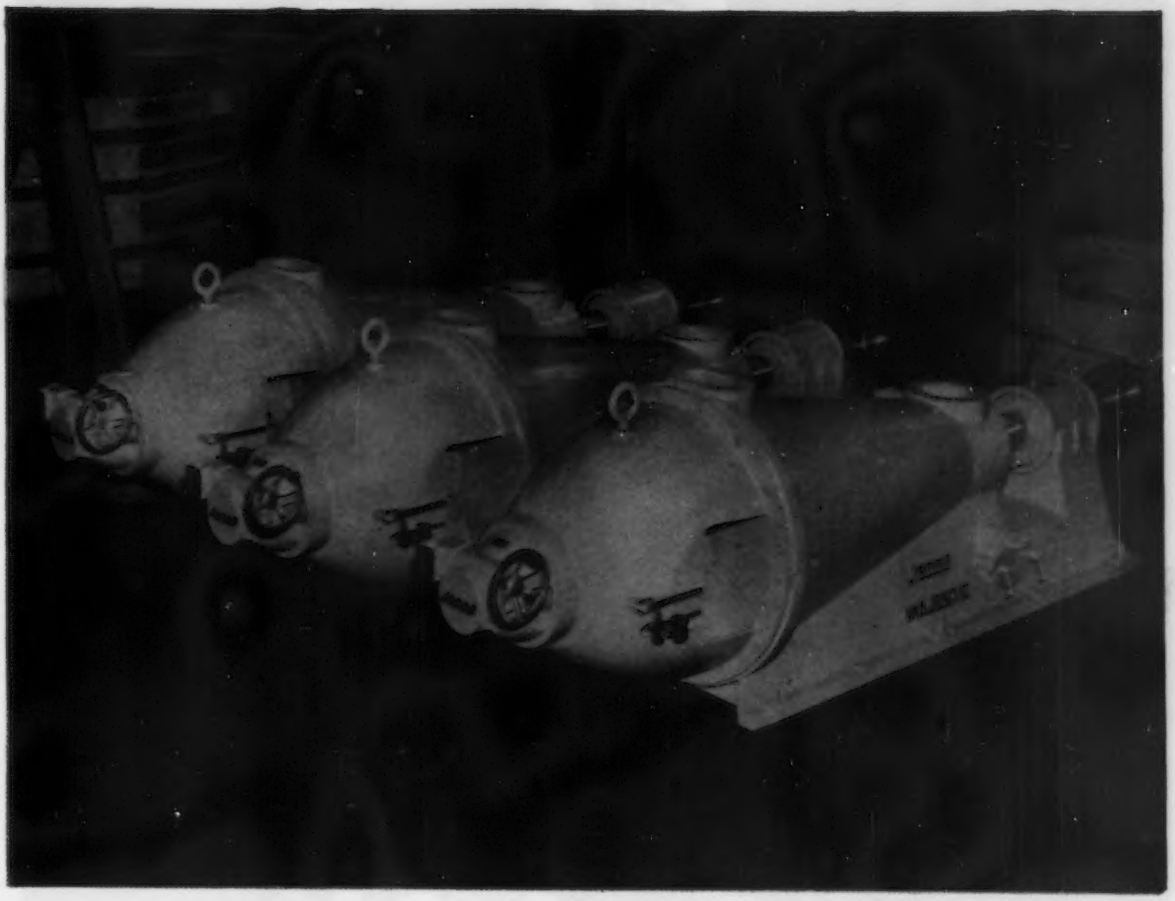
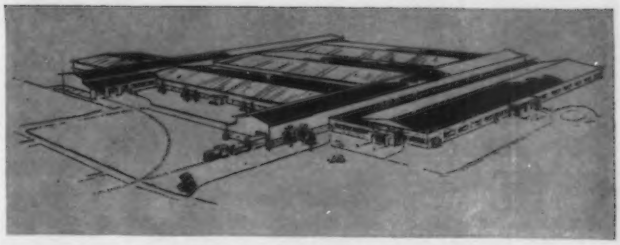
New Jones Majestics



. . . precision built in our new plant for the world's newest mills

Some things *are* old about these Jones Majestics . . . quality refining results, efficiency of operation and ease of maintenance, for example. But otherwise practically everything else is *new* . . . like the simplified unit shell construction, the base-mounted scale to indicate plug position, the improved design of bearings, packing glands and Accruset adjusting mechanism. They're the first machines off the production line in Jones' new Pittsfield plant . . . and first choice of the world's newest and finest mills. For full details write to E. D. Jones Corporation, Pittsfield, Mass. Ask for Bulletin EDJ-1036.



New Jones Plant in Pittsfield is one of the largest pre-fabricated steel buildings in the country. In it are incorporated the very latest production methods and facilities to assure Jones' continued leadership in the field of pulp mill equipment and stock preparation machinery.

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Produced in new cells under the most modern, continuous automatic controls, FMC Chlorine is unexcelled for consistent purity.

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She's only five foot two, but she "operates" these six Permutit Valveless Filters

• If these were standard manually-operated gravity filters, it would take 3 husky well-trained men (3 one-man shifts) to open and close heavy valves for shutoff, backwash and rinse. If they were table-controlled automatic filters, the initial cost would be almost *doubled.*

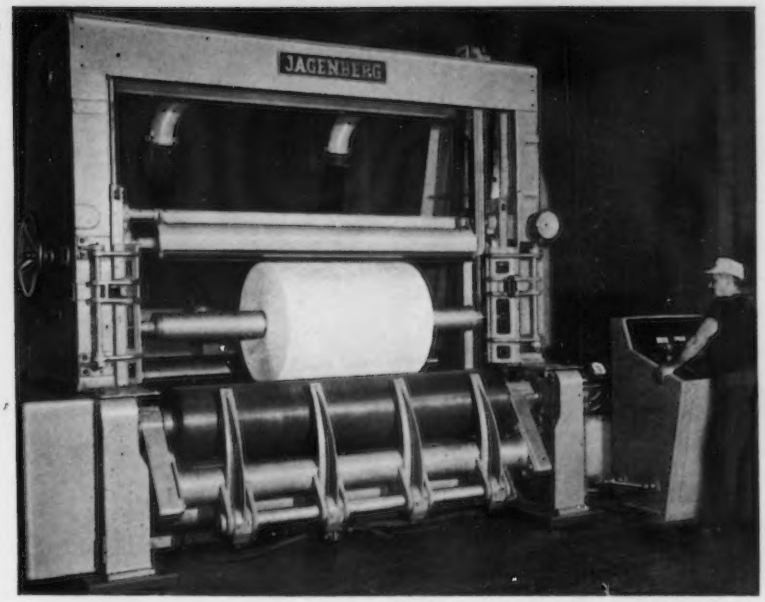
Fact is these filters are in the same price range as manual filters, yet they are *completely automatic.* They shut themselves off from service at just the right bed condition. They backwash and rinse at the most efficient flow rates and for a pre-set length of time. Then they put themselves back into service. The little lady doesn't have to touch them!

Permutit Valveless Filters use a simple design employing basic hydraulic principles to do the "thinking" and the work . . . replacing expensive valves, flow controllers and hydraulic or pneumatic control systems. Initial installations have been approved for treatment of drinking water as well as process water.

Our new Bulletin No. 4351 tells how you can cut both initial and operating costs with Valveless Filters. Call the nearest Permutit man or write to The Permutit Company, Dept. PT-60, 50 West 44th Street, New York 36, N. Y., or Permutit Co. of Canada, Ltd., 207 Queens Quay West, Toronto 1, Ont.

PFAUDLER PERMUTIT INC.

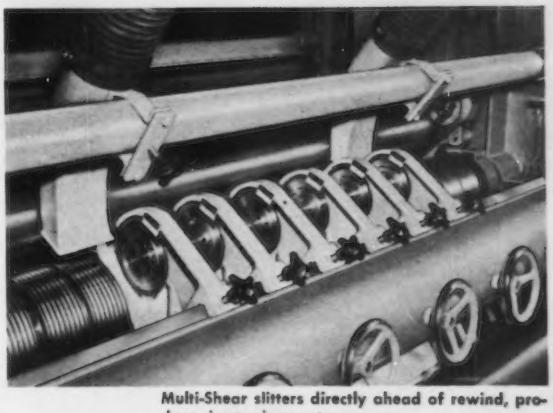
Specialists in FLUIDICS . . . the science of fluid processes



Model 30 operating at Westvaco's Tyrone Mill, rewinding and slitting narrow rolls.

why WESTVACO bought the JAGENBERG Pneumatic Winder...

J. Lynne Ferner, Manager of the Tyrone-Williamsburg Division says: "Our mill at Tyrone, Pa., is in the fine papers business and we're constantly on the alert for new equipment and processes which will contribute to greater operating efficiency and improved quality. We installed a Jagenberg pneumatic winder at Tyrone after one of our engineers had had an opportunity to study its performance in commercial operation in Germany. The equipment is doing a good job of producing well-wound narrow rolls, principally for the envelope trade."



Multi-Shear slitters directly ahead of rewind, produce sharp, clean cuts.

JAGENBERG Available in three different Models, 60" to 160" wide, the JAGENBERG Pneumatic Winder can be installed behind the Paper Machine or off the Machine. Its special features include the "Multi-Shear" slitting system, a unique type of rewind shaft guide, driven fly rolls and a built-in roll lowering device. Pneumatic operation throughout. Speeds up to 4,000 fpm. Precision engineered by JAGENBERG, world's largest manufacturers of paper finishing equipment. Contact our representatives for full details.

Finished rolls separate easily, have clean straight sides.

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A cationic urea-formaldehyde resin, Scriptite 40 imparts a high degree of wet strength to paper, with less resin add-on. In addition to raising tensile and wet bursting strength, Scriptite 40 also improves dry tensile strength, dry mullen, wet rub resistance, internal sizing, pick resistance, dry stiffness, dimensional stability, and folding resistance. For technical assistance, samples, and literature, write to Monsanto Chemical Company, Plastics Division, Room 779, Springfield 2, Massachusetts.

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MONSANTO DEVELOPER IN **PLASTICS**

The Monsanto line of paper resins also includes: **SCRIPTITE 50** *for unsurpassed printability and improved surface characteristics on boxboard.* **SCRIPTITE 33** *a melamine wet-strength resin.* **SCRIPTITE 52** *in combination with formaldehyde to give water resistance to folding boxboard and to jute liner.* **SCRIPTITE 54** *for outstanding water resistance and both wet and dry rub resistance.*

*SCRIPTITE: Reg. U. S. Pat. Off.

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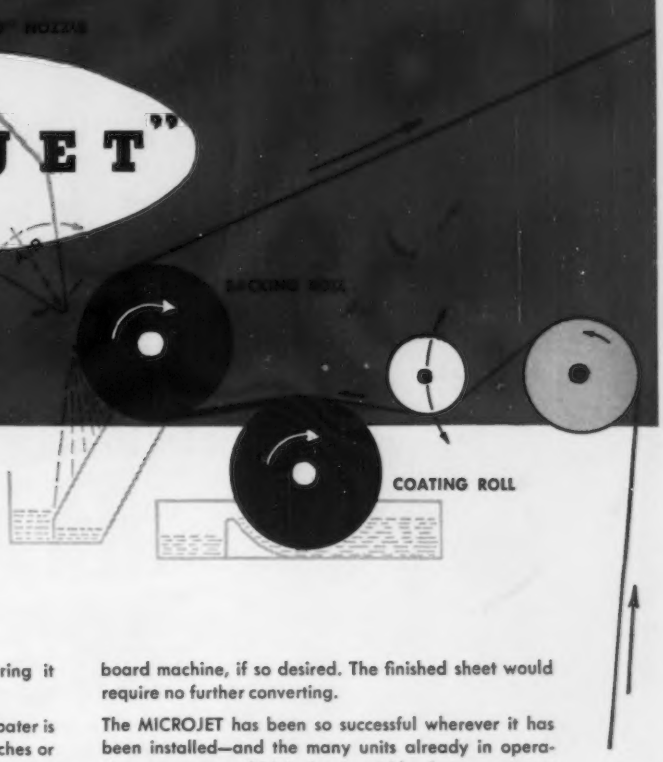
the COATER where the metering is done by high velocity air



...and a clean, smooth, uniform job of metering it does, too! The accuracy is exceptionally high!

The quality of coat coming from the MICROJET Coater is exceptionally fine, being completely free of scratches or other surface imperfections. The economy is high in that maximum coverage per pound of coating is obtained. The WALDRON MICROJET Coater can be installed actually on or immediately in series with the paper or board machine, if so desired. The finished sheet would require no further converting.

The MICROJET has been so successful wherever it has been installed—and the many units already in operation range up to 226 inches in width—that we suggest you discuss its advantages with one of our engineers in connection with that coater project you have in mind. It has much to offer.

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	No. of Units
International Paper Co.	4
Container Corp.	1
Riegel Paper Co.	1
Olin Mathieson	1
E. Texas Pulp & Paper Co.	2
Sutherland Paper Co.	2
Waldorf Paper Co.	2
Gulf States Paper Co.	1
Potlatch Forests	2
Alton Box Board	1
United Board & Carton	1
Union Bag-Camp Paper Corp.	1

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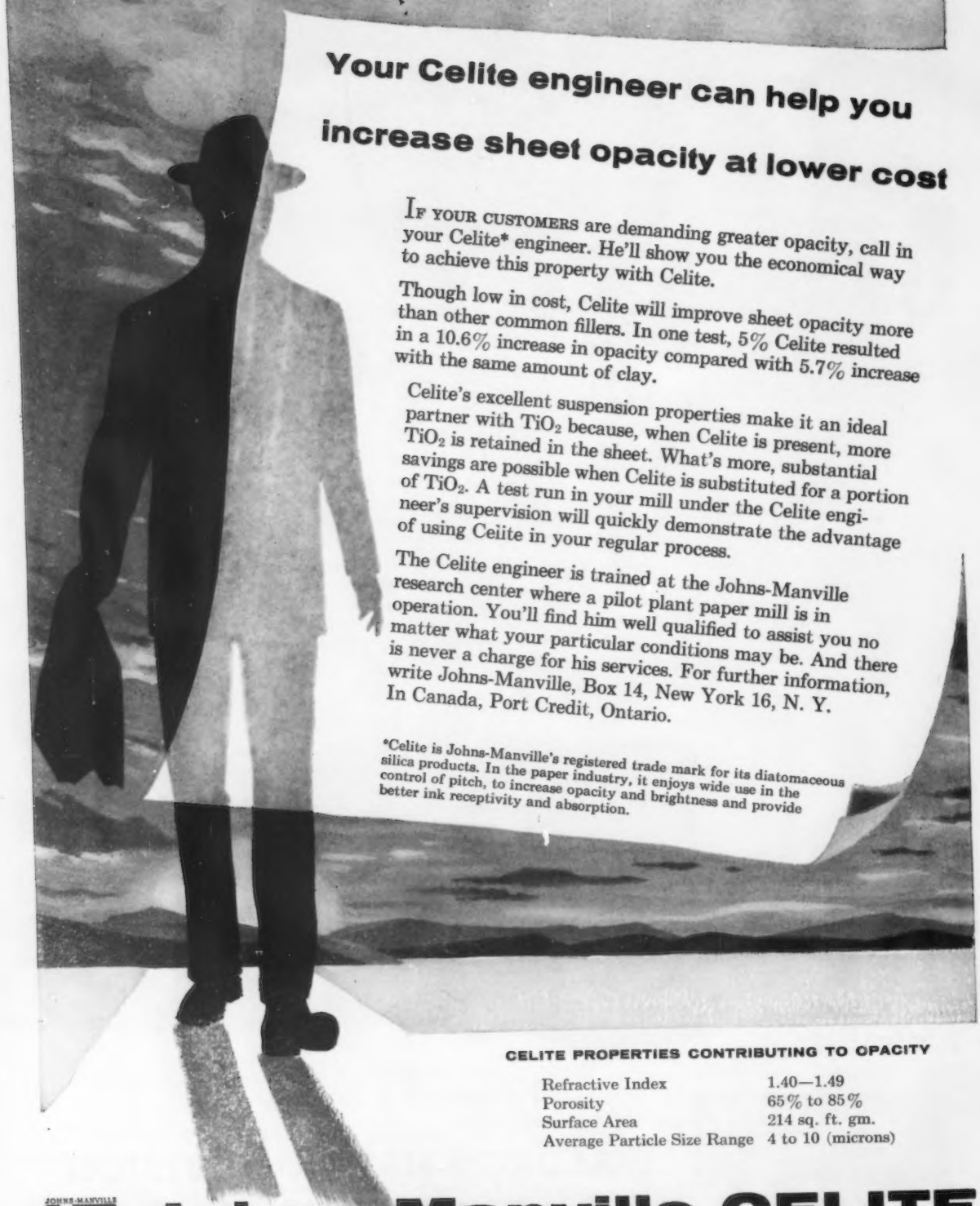

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IF YOUR CUSTOMERS are demanding greater opacity, call in your Celite* engineer. He'll show you the economical way to achieve this property with Celite.

Though low in cost, Celite will improve sheet opacity more than other common fillers. In one test, 5% Celite resulted in a 10.6% increase in opacity compared with 5.7% increase with the same amount of clay.

Celite's excellent suspension properties make it an ideal partner with TiO_2 because, when Celite is present, more TiO_2 is retained in the sheet. What's more, substantial savings are possible when Celite is substituted for a portion of TiO_2. A test run in your mill under the Celite engineer's supervision will quickly demonstrate the advantage of using Celite in your regular process.

The Celite engineer is trained at the Johns-Manville research center where a pilot plant paper mill is in operation. You'll find him well qualified to assist you no matter what your particular conditions may be. And there is never a charge for his services. For further information, write Johns-Manville, Box 14, New York 16, N. Y. In Canada, Port Credit, Ontario.

*Celite is Johns-Manville's registered trade mark for its diatomaceous silica products. In the paper industry, it enjoys wide use in the control of pitch, to increase opacity and brightness and provide better ink receptivity and absorption.

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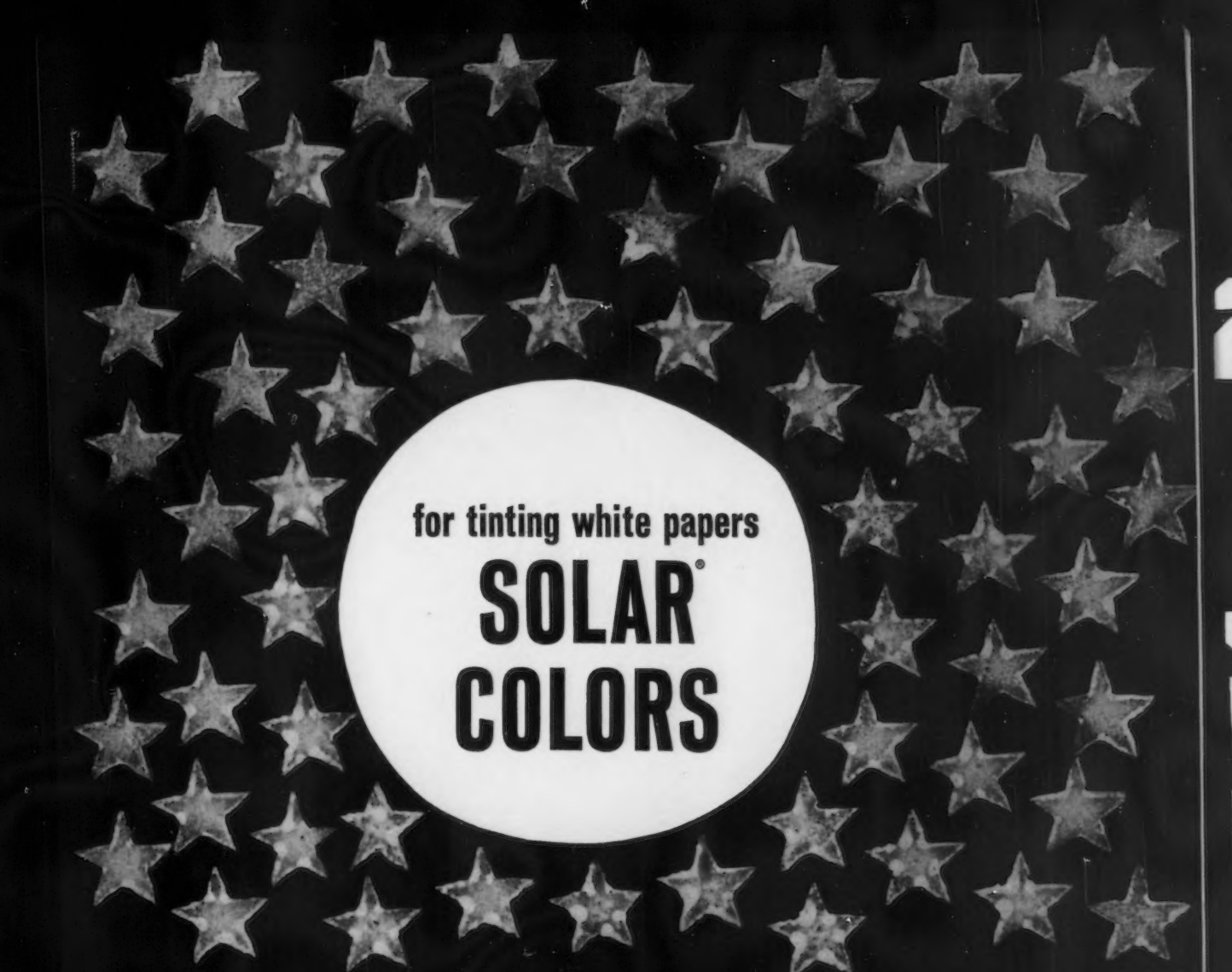
Refractive Index	1.40—1.49
Porosity	65% to 85%
Surface Area	214 sq. ft. gm.
Average Particle Size Range	4 to 10 (microns)

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville CELITE

PRODUCTS FOR THE PAPER INDUSTRY



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Easy-to-handle because of non-dusting and non-caking properties, these economical water-dispersible pigments also provide the outstanding advantages of: maximum brilliance of shade • excellent light fastness • uniform dispersion • quick wetting-out • process stability

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FROM RESEARCH TO REALITY

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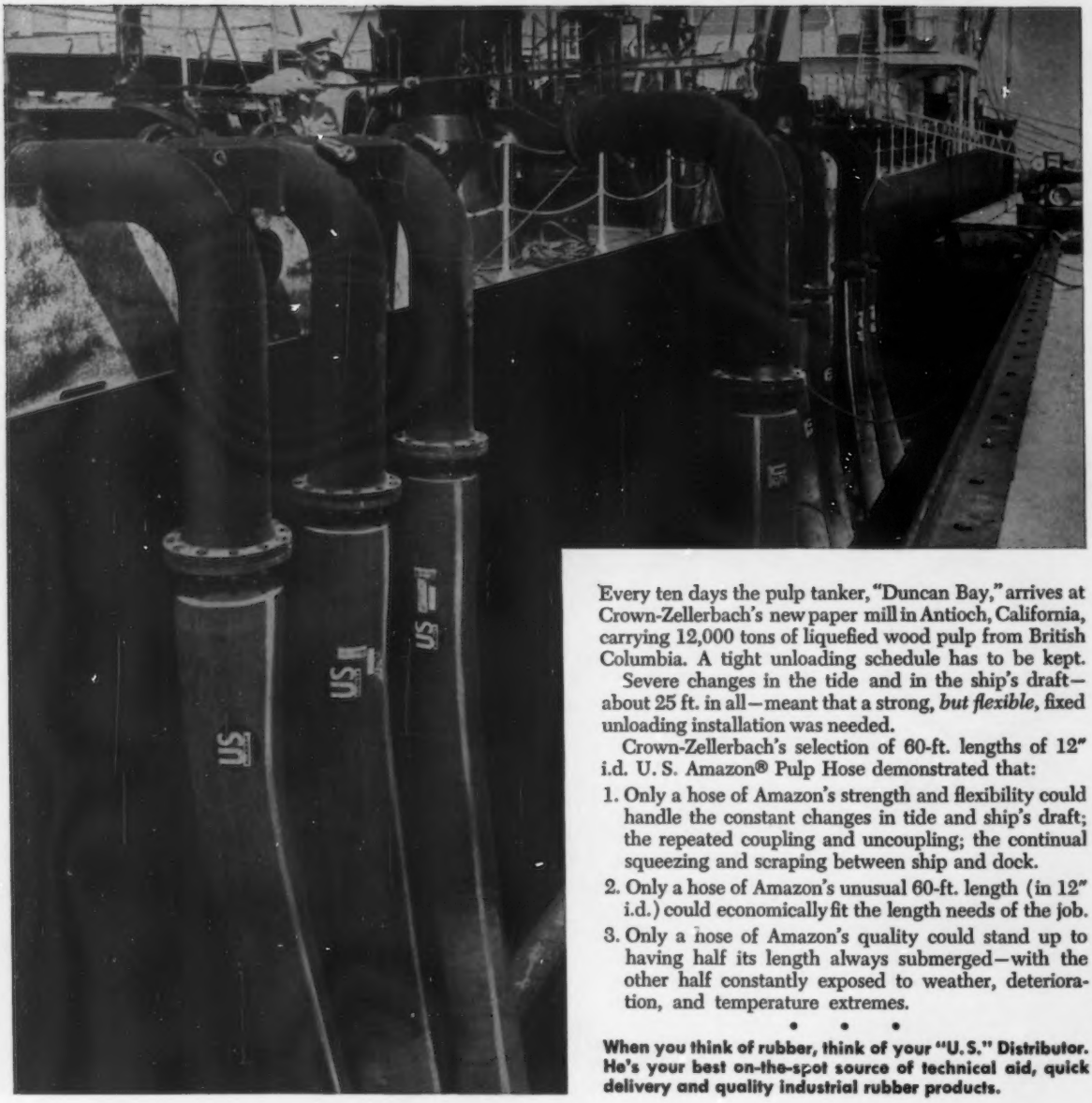
SOLAR COLORS MANUFACTURED BY GENERAL ANILINE & FILM CORPORATION ARE SOLD OUTSIDE THE UNITED STATES BY DISTRIBUTORS ALL OVER THE WORLD UNDER THE TRADENAME TINTOFEN ®

US RUBBER AMAZON HOSE

Controlling time and tide —with 60-foot lengths of hose



Every ten days the pulp tanker, "Duncan Bay," arrives at Crown-Zellerbach's new paper mill in Antioch, California, carrying 12,000 tons of liquefied wood pulp from British Columbia. A tight unloading schedule has to be kept.

Severe changes in the tide and in the ship's draft—about 25 ft. in all—meant that a strong, *but flexible,* fixed unloading installation was needed.

Crown-Zellerbach's selection of 60-ft. lengths of 12" i.d. U. S. Amazon® Pulp Hose demonstrated that:

1. Only a hose of Amazon's strength and flexibility could handle the constant changes in tide and ship's draft; the repeated coupling and uncoupling; the continual squeezing and scraping between ship and dock.
2. Only a hose of Amazon's unusual 60-ft. length (in 12" i.d.) could economically fit the length needs of the job.
3. Only a hose of Amazon's quality could stand up to having half its length always submerged—with the other half constantly exposed to weather, deterioration, and temperature extremes.

• • •

When you think of rubber, think of your "U.S." Distributor. He's your best on-the-spot source of technical aid, quick delivery and quality industrial rubber products.

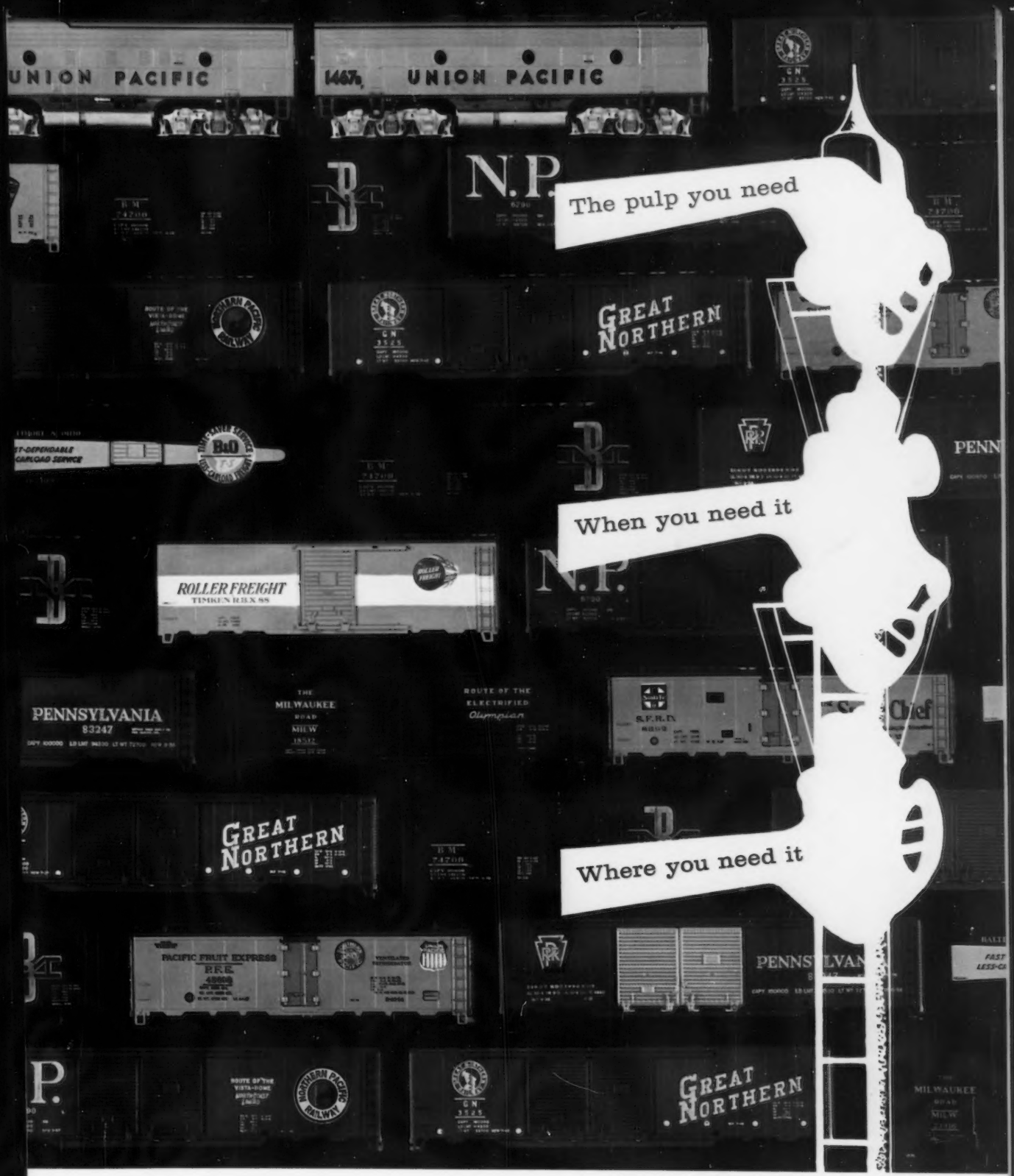
US RUBBER

Mechanical Goods Division

United States Rubber

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

Rockefeller Center, New York 20, N.Y. In Canada: Dominion Rubber Company, Ltd.



Today, all of Weyerhaeuser's modern mills stand ready to satisfy your needs for bleached sulphite and bleached kraft.

Weyerhaeuser Company

Pulp and Paperboard Division

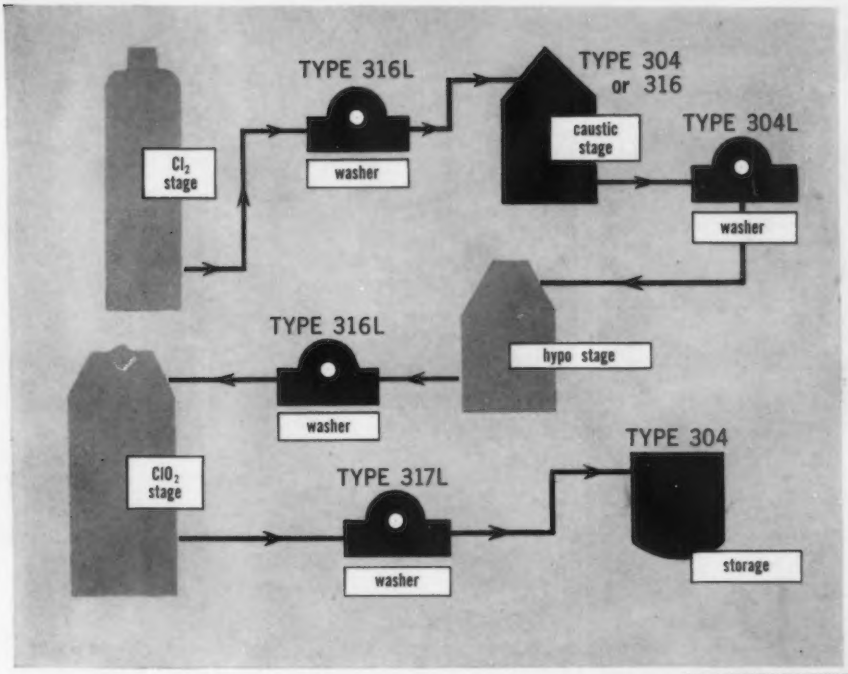
New Economies in Flat-Belt Operation

Tanastic, the nylon core leather belting by Rhoads, makes no maintenance demands. Will not slip because it is stretch-free. Maintains tension, runs straight and true. Tanastic starts up without slipping, and runs at highest speeds required in mill operation.

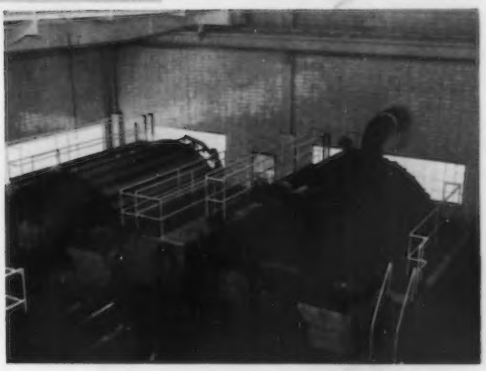
Ask a Rhoads belt-drive engineer about Tanastic nylon core leather belting, Texalon nylon core synthetic belting, or famous Rhoads Tannate leather belting. Literature on request. Address Engineering Department, J. E. Rhoads & Sons, Wilmington 99, Delaware.

RHOADS

Established 1702 . . . Pioneers in Mechanical Power Transmission



The flow diagram illustrates how different types of stainless were matched with corrosive conditions in the bleach line at a midwestern mill. Stainless is in black. The photo shows the mill's first and second stage pulp washers. Chlorine stage washer (right); caustic extraction stage (left).



Here's Where Armco Stainless Steels Help Check Bleach Plant Corrosion

Corrosion-resisting Armco Stainless Steels offer low-maintenance service in caustic bleaching equipment. In addition, based on comparisons of life versus cost, Armco Stainless can frequently be specified with savings for washers, washer-thickeners, and other equipment handling chlorine and caustic-chlorine bleaches. True, these highly-corrosive bleaches aren't easy on stainless, but stainless often costs less in the long run than other materials of construction.

MANY APPLICATIONS

Armco Stainless Steels offer equivalent advantages throughout pulp and paper mills—from digester house to machine room.

We invite you to look at the record. Fill in and mail the coupon for a free copy of the new booklet, *How Armco Stainless Steels improve pulp, paper and profit.* It is designed for use by technical people who must maintain quality and quantity of production—those who design equipment or specify materials of construction.

New steels are born at Armco

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2290 Curtis Street
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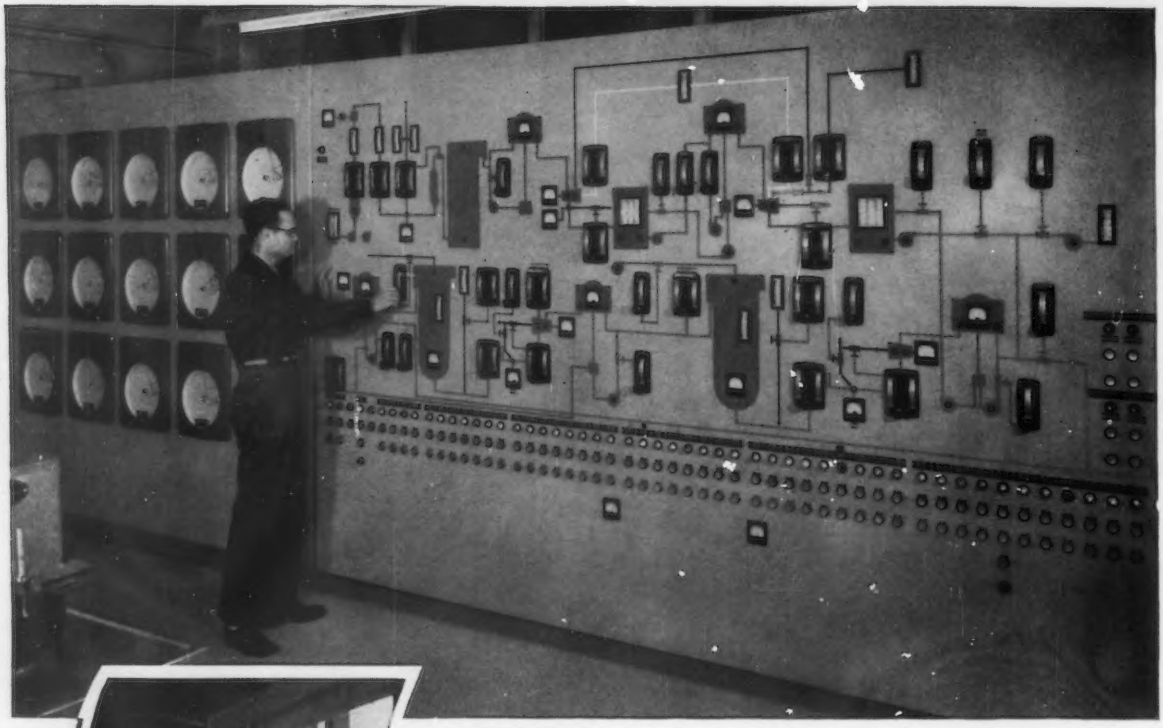
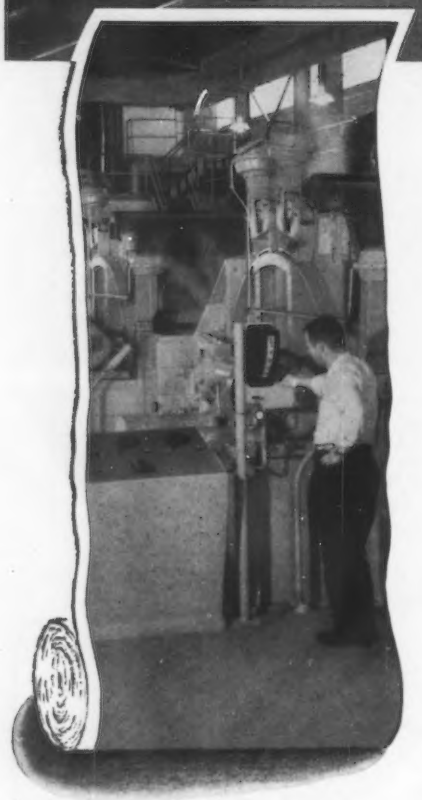
Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation





Photos courtesy Marathon Southern Corporation

Bailey controls Marathon's five-stage bleach plant!

Marathon Southern's five-stage bleach plant at Naheola, Ala., is one of the most completely instrumented in southern U.S.A.

Rigid quality control—automatic and foolproof—keeps production going at top speed with unvarying excellence in the finished product.

The panel board in the central control room (above) was built and instrumented by Bailey. Note how it is divided into two sections. The 15 Bailey Recorders in the recorder section provide continuous circular chart records. The functional graphic panel on its right provides a complete visual picture of the entire process. Important control variables such as stock consistency, stock flow, bleach liquor flows, stock temperatures, etc., can be watched and instantly corrected, either automatically or manually.

At the same station, the operator can supply consistency-controlled stock (from any of four storage towers) to any of the semi-bleach, pine bleach, or gum bleach pulp chests on a ratioed flow, automatically controlled basis.

Each of the five vat bleach washers is equipped with automatic level control (as shown at left).

This is but one example of how Bailey is helping pulp and paper processors to greater degrees of automation, efficiency, and quality control. Let your Bailey Engineer suggest applications to fit your operation. Or write for specific control systems information for your entire plant operation. P149-1

PULP AND PAPER DIVISION

BAILEY METER COMPANY

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BAILEY METERS

Trends

Total Output Down Slightly in April

Paper and board production during April was 2% below April a year ago. (Note Easter was in April this year and in March in 1959). Paper output was 2% above April last and board 4% below. Pulp production was 2% higher than April 1959.

All Depends on Point of View

Here is what a book publisher recently said in print about book paper prices: "Certainly there is no justification for increases, barring runaway inflation."

Waste Paper Utilization Studied

Waste paper, which supplies nearly a third of our industry's fibrous raw material requirements, received a comprehensive going-over from all points of view last week. See the report in this issue of the first Waste Paper Symposium.

Asphalt Roofing and Siding Mixed

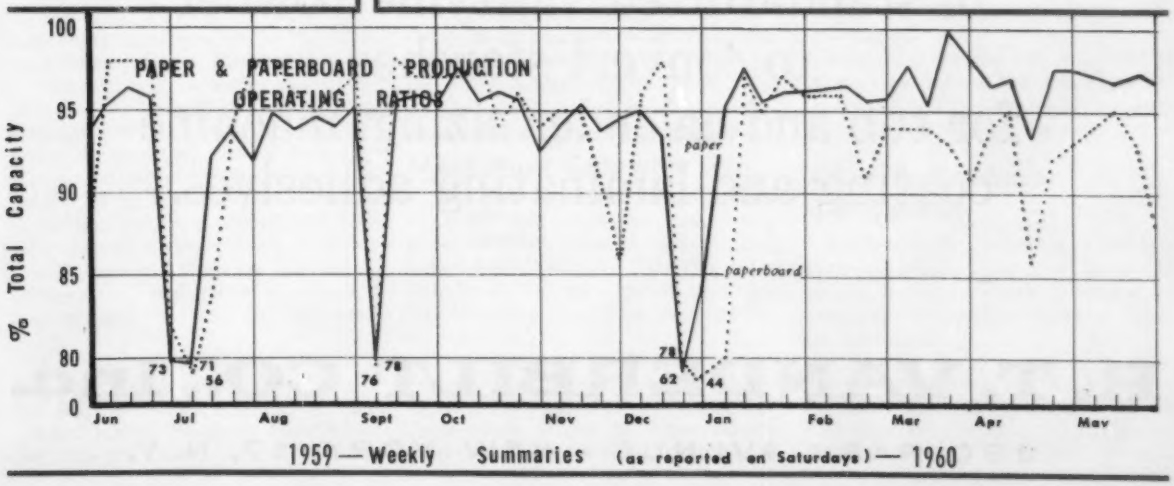
Asphalt roofing shipments in April were 1% ahead of April last year while asphalt siding, insulated siding and asphalt board products were off respectively as follows: —11%, —38%, and —30%.

Costs and Profits in Corrugated Boxes

Some interesting figures on costs and profits in corrugated box plants were revealed at the spring meeting of the Fibre Box Association. A. A. Newburg, association statistician, in comparing 1952 with 1959, showed that labor rates were up 50%, container board +10% and profits (after taxes) per thousand square feet of corrugated board sold were down 54%.

More Pulp Mills Possible for Louisiana

A just completed research project is said to indicate that Central and Southwest Louisiana can support a number more pulp mills. Sponsored by the Central Louisiana Electric Co. the report states that pine growth in the area is now two million cords annually while present cutting only takes half of this.



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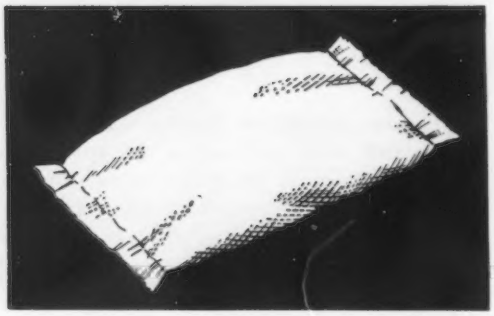
in water soluble packets



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of standardized Vanzyme powder
to convert starches
for tub and calender sizing, machine
coating and laminating adhesives.

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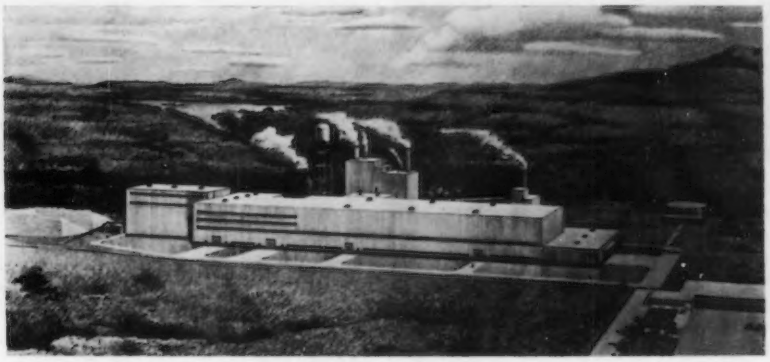
PAPER TRADE JOURNAL

WEEK OF JUNE 20, 1960



Southwest Forest Mill Construction To Begin Next Month

Construction of the first paper and pulp mill in Arizona for the manufacture of newsprint and kraft linerboard will get under way before July 1. Located near Snowflake, in the east central part of the state, the mill will cost in excess of $32 million to build and equip. It will produce 75 thousand tons of newsprint and 65 thousand tons of kraft linerboard and other paper annually. It is estimated that the kraft portion of the mill would go on stream in October, 1961 and that newsprint would be produced by December, 1961.

The contract for the construction of the plant and the installation of machinery has been let to the Rust Engineering Co. of Pittsburgh.

The mill will be under the direction of Raymond E. Baker, vice president of Southwest's pulp and paper division. Mr. Baker is a former executive of Weyerhaeuser Co. where he was vice president-manufacturing, pulp and paperboard division. James A. Hutchison, formerly senior representative for Howard S. Wright Co., will serve as resident and project engineer for the company.

A long-time leader in the lumber industry, the company ranks among the first 15 manufacturers of lumber and lumber products. Erection of the pulp and paper mill culminates a series of expansion moves and acquisitions during the past year which have diversified the company's position and projected it into the paper and paper products field. The expansion program involved the building of a new corrugator plant in Glendale, Ariz., the acquisition of a Phoenix wood and paper box company, and purchase of five paper wholesale companies in Los Angeles.

Seventy-five per cent of the kraft paper production, or nearly 50 thousand tons annually, will be consumed or distributed by these newly acquired facilities. Under long term contract the Hearst Corp. will purchase 50 thousand tons of newsprint annually, representing two thirds of the mill's newsprint production.

Bowaters Installing Paper Machine at Catawba

Sir Eric Bowater recently announced that Bowaters is going ahead with its plans to install a fine paper machine at its Catawba, S.C., pulp mill. He anticipated that the new machine should be in operation by mid-1962.

In a talk to shareholders at the corporation's general annual meeting, Sir Eric said the paper machine installation would be "the second step toward diversification" in North America. The first step was construction of Bowater Board Co., a hardboard mill now nearing completion at the Catawba site.

Gaspesia Sulphite May Install Paper Machine

In a $10 million expansion program at its Chandler, Que., mill, Gaspesia Sulphite Co. is reported to be planning the installation of a paper machine there. Further details were not available at press time.

Gaspesia at present operates a sulphite pulp mill producing 90,000 tons per annum of the top grades of market bleached sulphite pulp.

Crossett to Improve Kraft Paper Machine

The Crossett Co. will carry out a major improvement program on one of its kraft paper machines this year. The project will cost about $1,770,000.

Included will be the installation of a new head box, drying equipment and finishing rolls on the lightweight kraft paper machine, according to J. C. Hair, manager of that division.

The program is designed to improve the quality of kraft paper from this machine, while expanding volume by some 15 tons per day. The changes will also make possible the manufacture of some lightweight grades of kraft paper not now made at Crossett.

Rust Engineering Co. is in charge of engineering on the job. It is expected that the work will be completed by the end of the year.

Arborite Purchases C-D Canada

Arborite Co. becomes Canada's most completely integrated maker of plastic laminates with purchase of assets of Continental-Diamond Fibre Co. of Canada.

Arborite, wholly owned by Howard Smith Paper Mills, paid cash for the Toronto plant and equipment of the Canadian subsidiary of Continental-Diamond Fibre Corp.

COLUMBIA TAKES GRAND AWARD FOR SAFETY—Whitman Daniels (right), director of public relations for Associated Industries of New York State, presents a Grand Award to Francis M. Myers, Supt., Chatham Division of Columbia Box Board Mills, Inc. Everett Reid, president, Albany Felt Co., beams his approval. The Grand Award is given to the unit completing the most accident-free man-hours during the period from January 3 to March 26, 1960, in the particular industry it is competing in. During this period, the Chatham Division completed 85,513 accident-free man-hours, the highest for any paper mill in New York State.

Allied Paper Creates Business Forms Division

Creation of a separate business forms division within the structure of the Allied Paper Corp. was announced by Arnold H. Maremont, chairman of the board.

William R. Bercaw, who formerly headed the Mercury Envelope Co. of San Jose, Calif., was named president. Mr. Bercaw advised that his immediate staff will be comprised of Michael D. Maremont presently with the Allied's Paper Mill Division, who will act as vice president, and Walter Seewald, as cost analyst.

The new division, according to Mr. Bercaw, will be headquartered in Chicago and will direct and coordinate the activities of the subsidiary companies.

Allied's Business Forms Division includes the Egry Register Co. of Dayton, Ohio; the Stephen-Greene Co. of Philadelphia, Pa., and the American Register Co. of Boston, Mass.

Hammermill Buys Stock in Old Colony

Donald S. Leslie, president of Hammermill Paper Co., has announced that Hammermill has purchased a controlling stock interest in the Old Colony Envelope Co. from the Strathmore Paper Co. for an undisclosed amount. Strathmore Paper Co. continues to hold an important minority interest in Old Colony. The Old Colony Envelope Co. will continue to operate under its well-known present name. The present management headed by J. A. Chadbourne, president of Old Colony, will be retained and the present sales, purchasing and management policies continued. Old Colony has been a leading envelope manufacturer for a quarter of a century with a large modern plant located in Westfield, Mass.

Annual sales are approximately $6,000,000 made primarily to independent paper merchants located in all major markets of this country. Productive capacity to service paper merchants will be increased as quickly as possible.

St. Regis Installs ClO_2 System At Pensacola

Bleached board and paper of increased brightness and strength are being manufactured by St. Regis Paper Co. in its No. 1 mill at Pensacola, Fla., as the result of a chlorine dioxide system which went into operation late last month. The new process is the fourth stage in the kraft bleach plant which supplies pulp to two paper machines, one a fourdrinier and the other a cylinder machine. This is the second recent major improvement in bleached board qualities at the Pensacola mill. The first step was the installation of coating equipment on No. 1 and No. 2 machines.

The new bleaching sequence is: (1) chlorination; (2) first caustic extraction; (3) first hypochlorite; (4) chlorine dioxide; (5) second caustic extraction; and (6) second hypochlorite.

Initial production was on paper grades, cup, carton and linerboard on the fourdrinier machine, which has a capacity of about 175 tons a day, and on duplex on the cylinder machine, which has a capacity of about 80 tons.

There were significant increases in strength, both in tensile and Mullen tests and brightness ranged up to 81-82 from the standard of 78.

Canadian Fine Paper Output Increases

Canadian fine paper production and shipments increased slightly in April and substantially during the first four months of the year.

Total output for the month of April was 24,942 tons as against

Paper and Paper Board Production

The American Paper and Pulp Association reported the ratio of the United States paper production to mill capacity for the week ending June 4, 1960, at 96.8 per cent compared with 97.3 per cent, revised, for the preceding week. The ratio was 94.2 per cent for the corresponding week a year ago.

The National Paperboard Association reported the paperboard production ratio for the week ending June 4, 1960, at 85 per cent, compared with 93 per cent for the preceding week and 88 per cent for the corresponding week a year ago. Week ending June 4 included the Memorial Day holiday.

(Detailed statistics on page 59)

24,824 tons a year ago. Production for the year to date was 97,636 tons, a 4.6 per cent increase from 1959.

Shipments of fine paper during April increased by two per cent but were up by 7.8 per cent for the first four months of the year.

Coated paper production in April was 3,142 tons as against 3,258 tons a year ago; but production for the first four months of the year was 11,664 tons, a 3.3 per cent increase from the 11,287 tons production in 1959.

Syndicate Buys Interest In Tidy-House Paper

Herman Shulman, founder of the Tidy-House Paper Corp. of N.Y. and Tidy-Home Paper Sales Corp., has sold his 50 per cent interest in these companies to a syndicate represented by H. L. Federman of Federman & Stonehill Co. and resigned as president and chief executive officer.

Tidy-House was organized by Mr. Shulman in 1943. At the time of his leaving the sales exceeded $5 million.

New Food Wrapper Retards Spoilage

A revolutionary new food packaging material capable of retarding food spoilage and extending food shelf life has been introduced by the Paterson Parchment Paper Co.

Called Patapar Vegetable Parchment 27-110T, the mold-inhibiting material is designed especially for packaging cheese, preserves, baked goods, processed meats and other products that have a tendency to form mold in storage.

The ivory-colored vegetable parchment is the first mold-inhibiting packaging material to be approved by the Food and Drug Administration as meeting the requirements of the 1958 amendment to the Federal Food Drug, and Cosmetic Act. The parchment can be readily printed and easily glued.

Possessing excellent appearance, good grease resistance, and high wet strength, Patapar 27-110T is also recommended for lamination to paper and plastic food cartons and as a preservative wrapping for industrial products that tend to mold. While inhibiting growth of molds and yeast, the paper has little, if any, effect on most organisms that produce lactic acid, thus permitting the continuation of desirable bacterial cure.

PJT NEWS OF CONVERTERS

E. F. Burke

Standard Packaging Names Asst. V.P. of Marketing

Edward F. Burke has been promoted to assistant vice president of marketing of Standard Packaging Corp. He will make his headquarters at Standard's executive offices in New York City.

Mr. Burke, a resident of Allendale, N. J., joined Standard as manager of the Flexible Packaging Division in 1956. He brings more than 25 years experience as a salesman, sales manager and division manager to his new appointment.

Before joining Standard he was associated with Shellmar-Betner (now a division of Continental Can Co.) as general sales manager and as sales manager of the Milprint Co.

Jensen and Hearns Retire From Mead Container Posts

Retirement of William B. Jensen, district manager, and Richard E. Kearns, manufacturing manager, of the Grand Rapids plant of Mead Containers Division, and appointment of Jack A. Jensen as new district manager were announced.

W. B. Jensen and Mr. Kearns, along with William H. Stehouwer, founded the Grand Rapids Container Co. in 1944, after a long association with the American Boxboard Co. where Mr. Jensen had been sales manager.

Mr. Jensen had served as president, Mr. Kearns as vice president, and Mr. Shehouwer as secretary of the firm they founded until it was sold to The Mead Corp. in July 1958. Mr. Shehouwer resigned from active management of the firm in 1959.

Jack A. Jensen will continue to serve as sales manager for the plant in addition to his new duties as district manager. He received his Master's Degree from the University of Michigan in 1949.

Southeastern Carbon Starts Decatur Plant

Southeastern Carbon Paper Co. has broken ground for a new $500,000 plant at 196 Rio Circle in Decatur, Ohio, seventh of a planned $2,000,000 development project of 24 separate structures for the new Loredo Industrial District.

Patillo Construction Co. is builder and lessor of the new plant.

Dixie Finds Market for Bottomless Paper Cups

That legendary fellow who sold ice-boxes to Eskimos has a rival—a man who just wrapped up an order for 100,000 paper cups without bottoms.

What good is a cup without a bottom? Wilson Sporting Goods Co., Chicago, found they make perfect pedestals for mounting baseballs, tennis balls, etc., in dealer displays. The salesman was Mike Fedoruk of the Dixie Cup Division, American Can Co.

H. W. Colburn, vice president and sales manager for Wilson, said the company had been thinking in terms of a key-slotted folding pedestal, but it would have required assembly by dealers.

Columbia Corrugated To Double Capacity

Columbia Corrugated Container Corp. of Hicksville, Long Island, is doubling its present manufacturing capacity with a new plant in Syosset, Town of Oyster Bay, L. I. In the initial stages the company will use about 2,000 tons of board per month. This will build in a short time to 7,000 to 8,000 tons per month. Most of the board will be received by rail.

PAPER PEOPLE

J. Z. Segal

Segal Joins Consolidated Ahdawagam Division

John Z. Segal has joined the Ahdawagam Division of Consolidated Water Power & Paper Co. as assistant to the general manager.

Mr. Segal comes to the company with 13 years of varied experience in the paperboard products industry. He has been sales manager for Artistic Carton Co., Elgin, Ill., for the past two and half years. From 1955 to 1958 he served as district sales manager of United Board & Carton Co. out of Chicago. He received his early manufacturing and sales training in the paperboard products field with Alton Box Board Co., Alton, Ill. Mr. Segal attended the University of Arkansas and De Paul University.

Dunlap Made Sonoco Engineering Director

James L. Dunlap, administrative assistant to the vice president in charge of engineering, Sonoco Products Co., Hartsville, S.C., has been promoted to the newly created position of director of engineering.

Mr. Dunlap will be responsible for the functions of the general engineering section and the machine design section of the engineering department. He joined Sonoco in September, 1947, in the engineering department. He is a graduate of Clemson College and served with the Air Force during World War II.

O-M Paper Div. Names Vice President—Research

Milton O. Schur has been named vice president for research of the Paper Division of Olin Mathieson Chemical Corp., effective July 1. He was formerly director of research and development for the division's Ecusta Paper operation in Pisgah Forest, N. C., and will continue to make his headquarters there.

David C. Lea will replace Mr. Schur at Ecusta. He is director of research and development for the division's operations in West Monroe, La., and will transfer September 1.

M. O. Schur

Dr. Lea's position is to be taken by Thomas Zentner, who will move to West Monroe on Juy 1 from the post of director of research and development for the Gardner Division of Diamond National Corp.

Mr. Schur, in his new post will coordinate the research and development activities of the Ecusta paper products and film operations. He will also serve as consultant to the Ecusta research and development department.

Mr. Schur, who was graduated from Massachusetts Institute of Technology with a B.S. in chemical engineering, joined Ecusta in 1944 as research director. He is the originator of the wet-strength principle of paper manufacture and holder of several hundred patents.

Dr. Lea left Potlatch Forests, Inc., Lewiston, Idaho, where he was technical director, to join Olin Mathieson in 1956. He holds a B.A. degree in chemistry from Montana State University and a Ph.D. degree from the Institute of Paper Chemistry.

Dr. Zentner received a B.S. degree in chemical engineering and M.S. and Ph.D. degrees from the Institute of Paper Chemistry. He joined Gardner in 1952.

John Harvey

Harvey Joins Bowater As PR Manager

John Harvey, formerly of Scott Paper Co., has been named manager of public relations for Bowaters Southern Paper Corp.

Mr. Harvey, during his tenure with Scott in Chester, Pa., had served as manager of community and press relations and as secretary of the Scott Paper Co. Foundation.

Prior to that he had been associated with a Philadelphia advertising and public relations agency and was civilian public relations representative for the Naval Supply Center, Norfolk, Va.

Fibreboard Names Spurgeon to New Post

Appointment of Leslie M. Spurgeon as technical director of the Paperboard Division of Fibreboard Paper Products Corp. has been announced.

Mr. Spurgeon has been with Fibreboard since 1953. Since 1958 he has served as technical superintendent at the Stockton Board mill.

William H. Streaker, technical superintendent of the Vernon board mill, succeeds Mr. Spurgeon at Stockton.

A. F. Landsberg, process engineer, Vernon Board mill, has been promoted to take Mr. Streaker's place.

Mr. Spurgeon will headquarter at 475 Brannan Street, San Francisco, Calif.

Which size BIRD CENTRISCREEN Should You Install To Effect Savings Like These?

The *Model 14* Centriscreen delivers up to 6000 gallons of clean, shive-free stock per minute.

The *Model 10* delivers up to 3000 gpm.

The *Model 6* is ideal for small machines and cylinder machines with one screen per vat. Capacity up to 1200 gpm.

Savings in Stock: Centriscreens are effecting substantial reductions in rejects as well as improving quality and formation. This applies to difficult as well as standard grades. Lumps and slime are no longer a problem.

Savings in Production: Centriscreens mean far fewer breaks on the machine, greatly reduced down time and constant operation at maximum machine speed.

Savings in Wire Life.

Savings in Screening Cost: Users are uniformly enthusiastic about the low cost of operating and maintaining their Centriscreens. These screens run and keep on running month in and month out without screen plate breakage or erosion.

Ask us to submit recommendations, layouts and estimates on the right size Centriscreen for your paper machine.

BIRD MACHINE COMPANY

SOUTH WALPOLE, MASS.

REGIONAL OFFICES: EVANSTON, ILLINOIS
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Canadian Manufacturers of Bird Machinery
CANADIAN INGERSOLL-RAND COMPANY, Limited, Montreal

Great Northern Promotes Pollard

Great Northern Paper Co. has announced the appointment of David F. Pollard of Millinocket to the position of assistant manager of manufacture.

Mr. Pollard graduated from Tufts College with a B.S. in chemical engineering in 1940. He joined the company in April, 1947, and has held positions as assistant superintendent and superintendent of bureau of tests, assistant technical director, technical director, and has been production superintendent at the East Millinocket mill since April, 1958. Prior to coming to Great Northern in 1947, he was employed by the DuPont Co.

Scott Paper Appoints PR Director

Donald W. Dresden has been appointed director of public relations of Scott Paper Co. He comes to Scott from the office of information of the World Bank, Washington, D. C.

Mr. Dresden had been a public relations agency account executive in Washington. Prior to that he was public relations director of the National Citizens Committee for Educational Television and had acted in a similar capacity for other organizations in the capital. Mr. Dresden also worked in Paris and Washington as an information officer for the Economic Cooperation Administration and successor agencies.

William C. Bliesner who has just been selected by the faculty of the Institute of Paper Chemistry to receive the Paper and Twine Ass'n.'s annual student award of $150 for 1960. Mr. Bliesner is 25 years old, married, has one child, and makes his home at Eden, Idaho. His undergraduate work was at the University of Idaho where he received a B.S. in chemistry in 1957. He served two years of active duty in the Navy R.O.T.C. program and has just completed his first year of graduate work at the Institute with excellent results.

Consolidated's Biron Div. Appoints Two

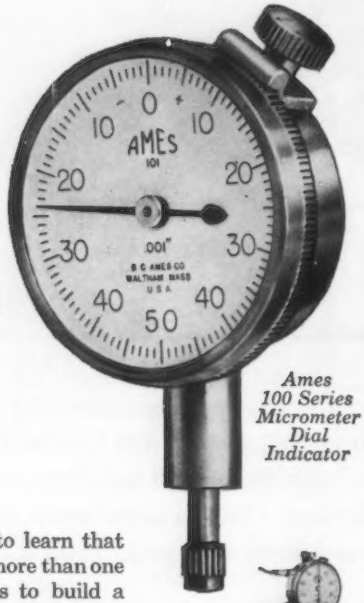
Two personnel appointments at the Biron Division of Consolidated Water Power & Paper Co. have been announced.

Wayne Davis has been appointed pipe fitter foreman to succeed Charles Stolp, Sr., who recently retired. Mr. Davis began work with the company in 1945 and has been assistant foreman of the department since 1958.

Ronald Gielczyk has joined the division's technical department as a process engineer. A graduate of Western Michigan University's Pulp & Paper School, Mr. Gielczyk has been with Kimberly-Clark Corp. at Niagara Falls, N. Y.

We are preparing a list of persons who are serving the pulp and paper industry as consultants. If you are in this category, will you send us a note with your name and address and the field in which you specialize or are particularly qualified? We are anxious that our list be as complete as possible.

AMES DIAL INDICATORS are built by nonconformists



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Why? Because there are some jobs that can still be done *better* by a pair of skillful, sensitive hands than by the best automated machinery made. As long as this fact holds true we'll refuse — for *your* sake — to follow the crowd. For Catalog No. 60 write to: B. C. Ames Co., 55 Ames St., Waltham 54, Mass. — in Canada, H. C. Burton Co., 166 Rebecca Street, Hamilton.

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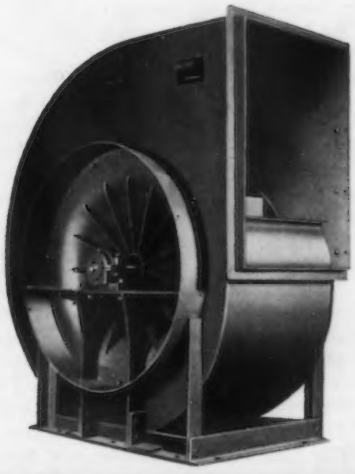
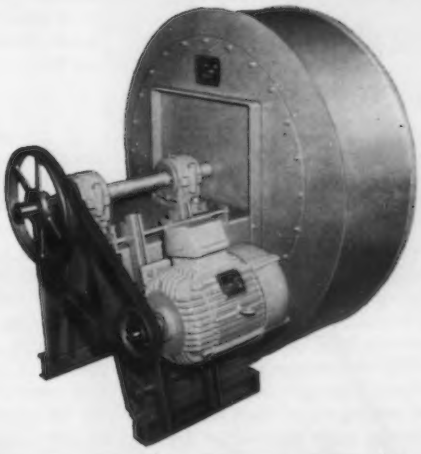


"Buffalo" Type "BL" Fan



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For supplying moderate pressure ventilating, air conditioning and air cleaning systems, the "Buffalo" Type "BL" Fan is ideal. From inlet through wheel to housing, the "BL" is engineered for quiet, efficient, economical operation. The "Buffalo" designed non-overloading characteristic assures stable output from free delivery to shutoff. Buffalo's traditional durable construction assures long, maintenance-free life. Capacities to 500,000 cfm. Write for Bulletin F-104.

For severe industrial service the "Buffalo" Type "CR" Fan is unsurpassed. Fan efficiency is increased by the same design factors that reduce wear to a minimum. A unique radial blade plus maximum streamlining through the entire fan accomplishes this dual purpose. Long, productive fan life is assured by Buffalo's extra-heavy duty construction throughout. For full details, write for Bulletin FD-205.

For rugged air and material moving jobs you can rely on "Buffalo" Industrial Exhausters. Special units will move hot gases from 200° F. to 850° F. For handling corrosive fumes, actual users prove that "Buffalo" Rubber-Lined Exhausters will outlast standard metal fans as much as twelve to one. Efficient material wheels are available for moving emery dust, saw dust, chips, long shavings and many other materials. There's a "Buffalo" Industrial Exhauster to fit your "tough" application. Write for Bulletin FI-110.

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No Price Cutting Competition from U.S.S.R., says Orlov

Russian engineers checking an instrument panel during their visit to the high grade bleached kraft mill of Northwestern Pulp and Power, Ltd., at Hinton, Alta.

A group of ten Russian pulp and paper specialists have been visiting Canadian paper mills, coast to coast for three weeks. The party was headed by G. M. Orlov, vice chairman of the U.S.S.R. State Planning Commission, who appears to be the top man in the pulp and paper industry in Russia. In addition to inspecting the mills, Mr. Orlov was shopping for pulp and paper mill equipment and consulting engineering services. He is reliably reported to be trying to get Canadian equipment firms to cut prices below quotations which he had already received from United States suppliers.

In an interview Mr. Orlov said: "Russia has already ordered papermaking machines from the United States and intends to buy five more. The United States," he said with a smile, "trades with Russia, but reluctantly." "They probably have excellent mill design engineers," he said, but added that he would not go to the U.S. to discuss the matter of their doing planning work in Russia.

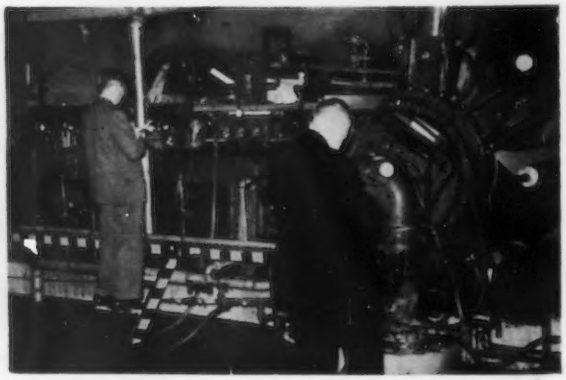
Sweden and Finland, from whom Russia has bought equipment for its pulp and paper industry, have good engineers, but Mr. Orlov said through an interpreter that he does not consider them the equal in reputation of British Columbia based firms. (Mr. Orlov was being interviewed in Vancouver, B. C.) He said in comparison with the Canadian industry, the Soviet paper industry is backward, but that Russians will go anywhere and talk to anyone to improve it.

Russia is aimed toward pulp and paper production far beyond that of the United States, but it will not be an exporter. North American producers need not worry about price cutting competition from Russia, according to Mr. Orlov.

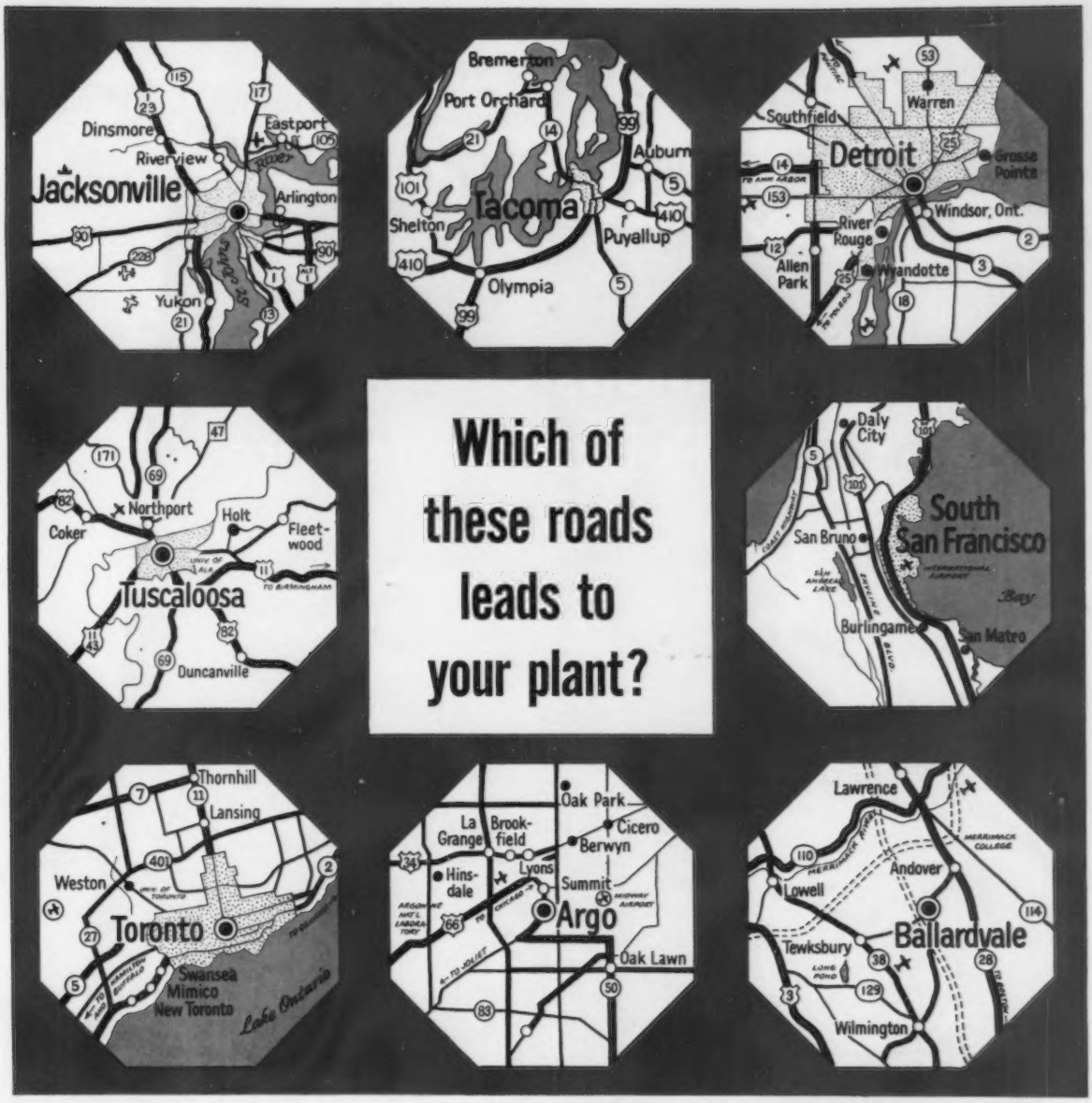
Mr. Orlov, now in his late forties, said he would not live to see Russia exporting pulp and paper. He said the country was a big importer.

"Its growing industry supplies only 30 per cent of the country's requirements," he said. "In 20 years USSR will have outstripped U.S. production of pulp, paper and paper board products; one reason for this is that the USSR has more forests than the U.S."

Questioned if Soviet plant managers have to show a profit, he said that the aim was greater efficiency, lower cost, and profit as a surplus of returns over costs of production. "But the goal is not just profit. It is to satisfy the requirements of the people," he explained.



Russians checking the fourdrinier on the pulp drying machine at Hinton. Note the ever-present and in use notebooks. It is their regular custom to ask the same question in several different ways of different people at a mill to check on the honesty of the answers.



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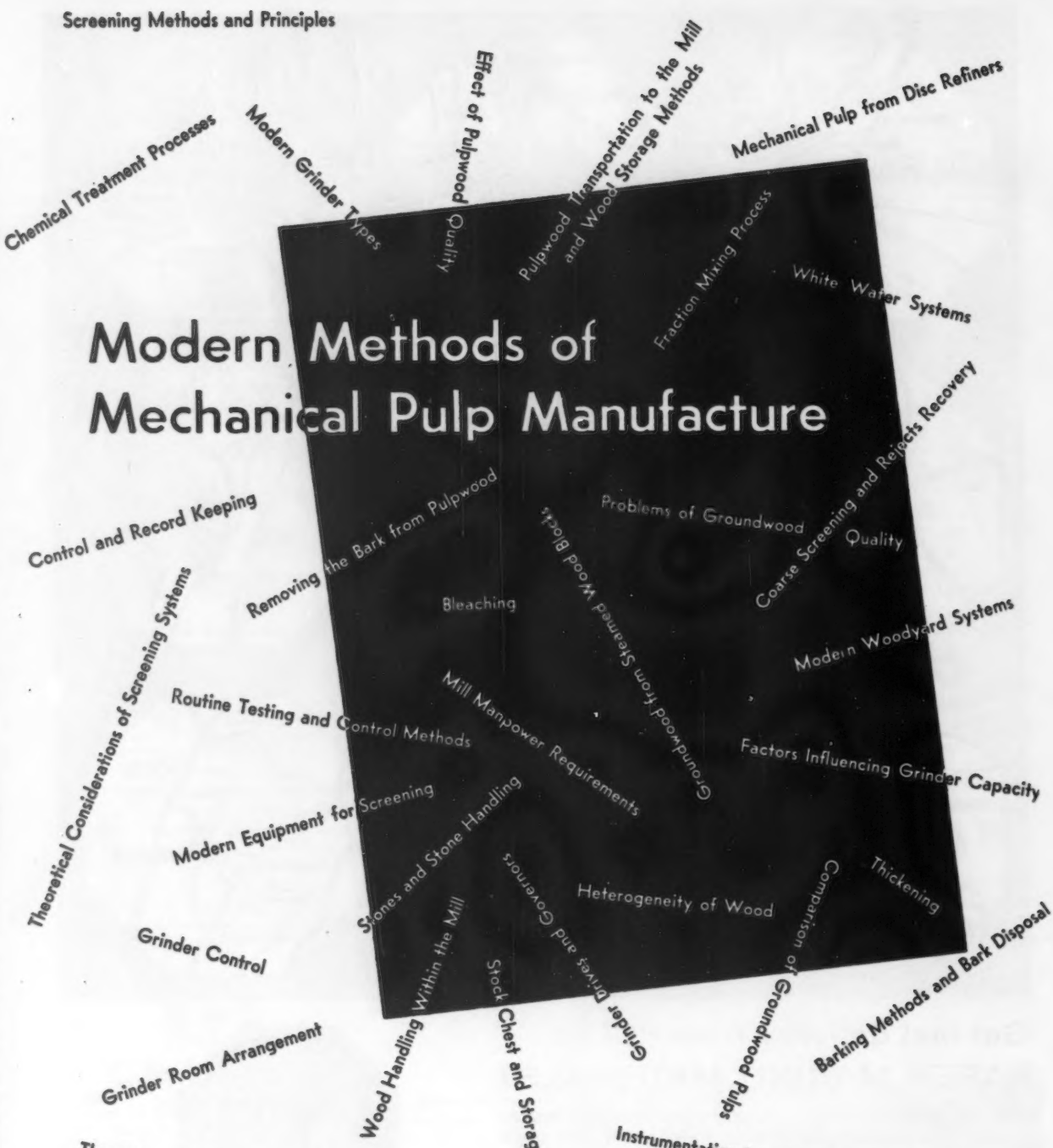
Screening Methods and Principles
Chemical Treatment Processes
Modern Grinder Types
Effect of Pulpwood Quality
Pulpwood Transportation to the Mill and Wood Storage Methods
Mechanical Pulp from Disc Refiners
Fraction Mixing Process
White Water Systems
Modern Methods of Mechanical Pulp Manufacture
Control and Record Keeping
Removing the Bark from Pulpwood
Problems of Groundwood
Coarse Screening and Rejects Recovery
Quality
Bleaching
Groundwood from Steamed Wood Blocks
Modern Woodyard Systems
Theoretical Considerations of Screening Systems
Routine Testing and Control Methods
Mill Manpower Requirements
Factors Influencing Grinder Capacity
Modern Equipment for Screening
Stones and Stone Handling
Heterogeneity of Wood
Thickening
Grinder Control
Wood Handling Within the Mill
Stock Chest and Storage Systems
Grinder Rivers and Governors
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Grinder Room Arrangement
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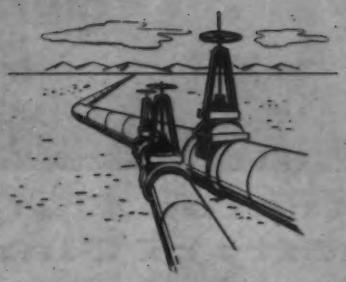

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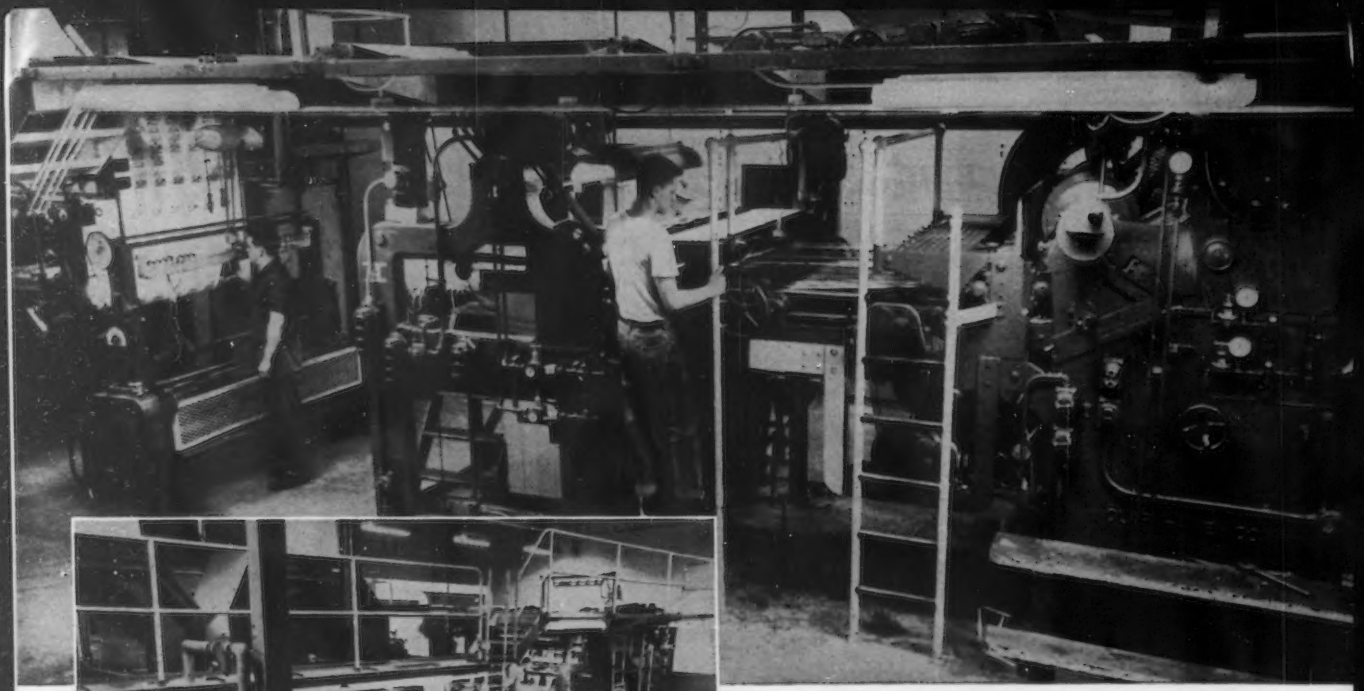

KVP

demonstrates the Speed, Precision and Rigidity of Clark-Aiken Sheeters

In 1950, when The KVP Company, decided it would be possible to eliminate rewinding and greatly simplify handling by hooking a sheeter to the delivery end of its big, high-speed No. 10 four-color rotogravure press, selecting the right sheeter imposed a problem for KVP engineers.

It had to be flexible in its operation to permit synchronization with the press.

It had to be accurate to make each cut of the printed sheet right on the line.

It had to be rigid to withstand the strains of continuous high-speed operation and maintain this accuracy.

Based on their experience with Clark-Aiken Sheeters in the KVP finishing room, they decided that a 52" Type C Clark-Aiken Cutter-Layboy Unit would do the job best.

Wisdom of this decision is borne out in the following report from Dellmore Moffett, Superintendent of Printing of The KVP Company.

"The Clark-Aiken sheeter at the end of our No. 10 4-color rotogravure press is valuable to us for three things. First, its rigid construction. Second, its speed. Third, and most important, its accuracy. I am tempted to use the word 'unbelievable' ahead of the word 'accuracy' for it far surpasses our original expectation. We are actually able to control it within the width of a period, or small dot."

In addition, KVP enjoys the benefits of such exclusive Clark-Aiken design features as

- The "Spiral Shear" Cylinder Knife that makes clean, sharp cuts on any type and weight of stock.
- One-Piece Knife Assembly that automatically maintains alignment when squaring the sheet.
- Scale-Setting of Slitters and Joggers that makes possible straight-line travel between slitters and pile without use of tapes.
- Lifetime Tapes which outwear old types many times, practically eliminate stretch troubles.

If you are sheeting paper, pulp, board, film, foil or fabric and require sustained high-speed operation with sustained accuracy and low operating and maintenance costs, Clark-Aiken has a sheeter exactly suited to your needs and can furnish it with a layboy and roll stand exactly suited to your requirements and operating conditions. Clark-Aiken engineers will gladly study your sheeting operations and offer recommendations with actual cost and savings estimates.

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Looking for the most economical, direct yellow dye available anywhere? Here it is! This paper is dyed with Du Pont Brilliant Paper Yellow. It's a direct yellow dye with very good lightfastness which shows a minimum of two-sidedness. You should consider it for all your high-grade stocks such as bonds, ledgers and covers, except where alkali fastness is important.

You can also use this color in formulations for canary, primrose, buff, cafe, goldenrod, india or grey and salmon shades. *Broke* dyed with it is bleachable and it shows *good* to *very good* solubility.

Even if Du Pont Brilliant Paper Yellow isn't what you're looking for, you'll probably find that Du Pont does have a yellow you *should* use. For information, write your nearest sales office, or see your Du Pont dye salesman.

QUALITIES YOU WANT IN A YELLOW DYE?	THEN TRY:
Alkali fastness plus most of the features of Du Pont Brilliant Paper Yellow	"Pontamine"* Yellow CHP
Bright and bleachable. Works without alum in unsized papers	"Pontamine" Bond Yellow CS or "Pontamine" Fast Yellow 4GL
Economical red shade of yellow with very good chlorine fastness	Du Pont Stilbene Yellow GX
Most economical yellow for unbleached pulp or groundwood—basic	Du Pont Auramine
Very bright canary shade yellow—economical and quite soluble	"Pontamine" Bond Canary G
Bright canary pigment—fast to water bleeding—a free-flowing liquid	"Lithosol"* Fast Yellow HV Paste
Exceptional chemical and lightfastness properties	"Pontamine" Fast Yellow BBL or "Pontamine" Fast Yellow NNL
Very good lightfastness and little two-sidedness—acid	Du Pont Quinoline Yellow
Soluble direct yellow good for both coating and general beater use	"Pontamine" Yellow SXG

*Reg. U. S. Pat. Off.

news from Du Pont

DU PONT MODERNIZES DYES & CHEMICALS TECHNICAL LABORATORY

The 40-year-old technical laboratory for Du Pont Dyes & Chemicals located at Deepwater Point, N. J., is growing younger every day. A 1½-million dollar renovation of the sales service and development facilities of the division's Technical Laboratory is well underway. This represents the first major expansion of the laboratory since 1936.

The expansion program will provide the most modern laboratory facilities for applications research in the division's original area of dyes. And it will answer the need for research and development facilities for industrial chemicals, many of which were introduced within the past decade.

Laboratory Director V. R. Hurka points out that "this modernization program will increase Du Pont customer service in the dyes and industrial chemicals field." He is enthusiastic about the program and notes that "new, modern equipment is essential in helping solve the many problems presented by consuming industries."

Already completed and in use is a new paper laboratory. This is where the division's scaled-down Fourdrinier paper-making machine is located.

The laboratory has been responsible for the development of a number of

(continued on other side)

new and improved processes. More than 10% of the people employed at the laboratory are technical experts in dyes and chemicals applications in the paper industry.

In addition, the laboratory supervises the division's quality control program, produces all of the division's technical literature and serves as an important training center for the sales and technical representatives of the Du Pont Dyes & Chemicals Division and its many customers.

news from Du Pont

NEW RESIN FINISH GIVES DUPLICATING PAPERS HARDER FINISH, REDUCES LINT...PICKING

"ZORON"* WS, a surface applied synthetic resin, can be used with starch to surface-size paper and give it a harder finish. This quality makes it excellent for duplicating paper, since it materially reduces the amount of lint on the paper. As a result, these papers are less likely to clog up duplicating machines.

"ZORON" WS doesn't require aging of solution, and it remains stable in solution for at least 48 hours at size tub temperatures. Conventional mill equipment can be used to apply it. It has been proved highly practical on the Fourdrinier paper-making machine in the Du Pont Paper Laboratory.

For more information about this resin and its application to duplicating paper, write to the Du Pont district office nearest you, or see your Du Pont salesman.

*Reg. U. S. Pat. Off.

WHAT'S YOUR PAPER PROBLEM?

Du Pont offers broad and diversified lines of chemicals for all types of papers.

Is your problem listed here? Check these items:	These, or related, chemicals and Du Pont experience could help you.
Bleaching	"Zepar"* BP reducing agent
Bleed Fastness Improvement	
Acid Dyes	"Insonite"* dye fixing agent
Basic Dyes	Du Pont Mordant BS
Curl Prevention	"Avitex"* Q softener "Avitex" ML softener
De-inking Assistance	"Alkanol" HCS surface active agent
Dye Fixing	Du Pont Mordant BS "Insonite" dye fixing agent
Dye Leveling	Du Pont Retarder LAN
Felt Washing	"Alkanol" HCS surface active agent "Duponol" RA surface active agent
Formation Improvement	"Avitex" MS softener "Avitex" Q softener
Graniting Prevention	Du Pont Retarder LAN
Linting Reduction on Printing Grades	"Zoron" WS
Pulping Assistance	"Alkanol" HCS surface active agent
Safety Paper Chlorine Indication	"Chlorostain"* N chlorine indicator
Softening	"Avitex" ML softener "Avitex" Q softener
Starch Insolubilization	"Zoron" WS resin finish
Wet Strength Imparting—surface application	"Zoron" WS resin finish

There's probably a Du Pont chemical that can help you. We offer a broad range of detergents, emulsifiers, resins, lubricants and specialty products such as water repellents, electrically-conductive chemicals, wetting agents, and many others. For complete data, write the district office nearest you.

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HOW TO USE SALES PSYCHOLOGY IN ADVERTISING

Open letter to suppliers who serve the paper and pulp industry

Every good salesman knows that there are two important emotional factors that may affect a prospect's decision of what product to buy. One is positive, the other negative.

To take the negative first, a new prospect experiences fear – fear that your product may not work out and, therefore, reflect discredit on his judgment.

The positive factor is ambition – the desire to build stature, to demonstrate good buying judgment. This creates a desire to believe your statements about your product and what it can do to save or make money for his company.

How can your advertising cope with these basic psychological factors? The answer usually lies in assurance.

Consistent advertising, year after year, provides the best assurance to fearful and hopeful readers. But even new advertisers can overcome these obstacles when they present specific evidence that other mills make profitable use of their products.

Such evidence can be presented as a testimonial from a satisfied user, a case history of an interesting application, or a list of satisfied users. The method is up to your advertising people. But we would point out that the *principle* of assuring prospective buyers is a sound one, for it will help your salesmen close orders.

George E. Lockwood PUBLISHER

PAPER TRADE JOURNAL

P.S. Most of the people who are reading this issue of PAPER TRADE JOURNAL, as you are now, are men who need to be assured that your product can do what you say it will. Are your company ads providing this assurance?

Leadership Needed To Handle Capacity-Price Problems

Two of the principal speakers at the annual meeting of PIMA held in San Francisco this June stressed the industry's pricing problems.

Paul D. Van Derveer,
Associate Editor,
Paper Trade Journal

The basic problems confronting the paper industry today appear to be, first, excess capacity producing a pressure on prices, and second, the extraordinary difficulty of pricing. These have brought about a lower ratio of net income to sales and lower value for paper company stocks, states J. F. Miller, Blyth & Co. Inc. According to Mr. Miller, even the more moderate views of future demand for paper and paperboard indicate the need for sizable amounts of new capital for the industry, and acceptability of paper securities by investors is of the utmost importance in arranging for these capital needs. He pointed out that Standard and Poor's Index of paper company equities has not yet re-attained the 1956 high of 186 and today stands about 16 per cent below that level.

The question brought out by these figures was—what has brought paper company stocks to this unsatisfactory state? Mr. Miller noted that our industry is one of good growth and this seems likely to continue. Sales have increased 16 per cent since 1956, but net income has not kept pace with either growth in sales or increase in capacity. (From data for 10 major companies in the paper industry.) In fact, the ratio of net income to sales has dropped sharply from 9 per cent in 1956 to only 6.8 per cent in 1959. He pointed to the fact that there has been large expansion in capacity in recent years, but questioned whether expenditures such as this are justified when it simply increases the ability to produce more units. His point was that incremental earnings for the ten major companies were equal to only four per cent of their gain in equity during the period between 1954 and 1959. With the difficulty of pricing and excess capacity of the industry, the need is for leadership in handling capacity-price problems in a way that avoids uneconomic returns. Mr. Miller brought out the fact that price does not really increase consumption and that cutting prices does not necessarily increase demand. Quoted prices give a misleading picture because of under the table discounts. Yet, Mr. Miller said that he has confidence that the industry will display more statesmanship in the matter of pricing. The challenge to management then is for: intense continued effort to reduce costs by new processes and retirement of obsolete equipment; research for new products and new combinations with existing competitive materials; great care in the planning of expansion, in production and analysis of market demand; serious efforts in the building of exports; intelligent studies for possible benefits in integration; statesmanship in pricing.

The above are excerpts from Mr. Miller's speech at the annual convention of the Paper Industry Management Ass'n. in San Francisco, June 7-9.

Tom S. Coldewey, vice president in charge of operations of St. Joe Paper Co., who was installed as president of PIMA. The new president who also is a member of the board of directors of St. Joe Paper Co., has been a vice president, director and member of the executive committee of the association since 1955.

Mr. Coldewey has been associated with St. Joe Paper Co. since 1937 and has been employed in all departments of the company's kraft containerboard mill in Port St. Joe. He was maintenance superintendent, assistant general superintendent, construction engineer in charge of the company's mill expansion program and assistant vice president in charge of construction and operations before he was advanced to his present position. He is a graduate of the University of Cincinnati, where he earned a degree in mechanical engineering.

Bolton Award Winners

Winners of the 13th Bolton Award Contest were announced as follows:

First Prize, Robert A. Bagg, Strathmore Paper Co.

Second Prize, James C. Lannen, Fraser Companies, Ltd.

Third Prize, Clifton Joseph Walker, E. B. Eddy Co.

Other prize winners were: M. S. Dimitri, West Virginia Pulp & Paper Co., Mrs. Joann Graham, Packaging Corp. of America, Helen Kalivoda, Huss Ontonagon Pulp & Paper Co., Robert E. Lee, Jr., Rochester Paper Co., C. H. Rausen, Hennepin Paper Co., Donald E. Reed, Continental Can Co., Robert L. Witham, Great Northern Paper Co.

New Officers Elected

Installed as president of PIMA was Tom S. Coldewey, vice president

C. Ives Gehring
First Vice President

Bemis P. Wood
Second Vice President

in charge of operations of St. Joe Paper Co. He has been a vice president, director and member of the executive committee of the Association since 1955. He served as chairman of the Southern Division in 1953. Mr. Coldewey took over presidency of the Association from A. C. McCorry of St. Regis Paper Co., Tacoma, Wash.

Becoming first vice president of the Association is C. Ives Gehring, Sealright-Oswego Falls Corp.; second vice president is Bemis P. Wood, Strathmore Paper Co.; third vice president is Glen T. Renegar, Container Corp. of America; and fourth vice president is now L. W. Murtfeldt, Consolidated Water Power & Paper Co.

Moving into the national officers circle for the first time is the new fifth vice president, Robert O. Stephenson, production manager of the Ohio Division of Champion Paper & Fibre Co., who was elected during the meeting. Continuing as secretary and treasurer is Harry E. Weston.

The theme of this 41st Annual Convention was announced by Mr. McCorry at the opening session as "The Paper Industry—In Orbit for the Sixties." In his president's message he said there was little doubt but what the next ten years will bring startling changes in our industry and in our lives. He expressed the hope that we be prepared to meet that challenge and keep abreast of the changes.

Named as new chairman of the Industrial Affiliates Committee was Richard A. McKay, Holyoke Wire Cloth Co. He succeeds Joseph A. Paciello, Amalgamated Leather Companies.

Calls for Reasonable Price

Guest speaker at a luncheon honoring the industrial affiliates of PIMA was W. R. Adams, president of St. Regis Paper Co. He discussed in broad terms the general position, performance and potential of the paper industry at the beginning of this decade of the sixties. He pointed out that paper is the country's fifth largest manufacturing industry, that 1959 volume was approximately $12 billion, that in that same year 34 million tons of paper and paperboard were produced, or about four times as much as the weight of all the automobiles the country produced last year, and that since the end of World War II in 1945, paper is one of the country's fastest growing industries, having doubled production in those 15 years. During the same 15 years, the industry has never had a year in which its operating ratio was below 81 per cent, only two years in which the ratio has been below 85 per cent, and only five years out of the fifteen in which it has been below 89 per cent.

Mr. Adams pointed to the fact that during the last ten years, while paper has successfully met the competition of television, plastics and the world's markets, and there seems to be no other serious competition to our industry on the horizon, the steel industry has been in serious competition with aluminum, concrete, and its overseas competitors. But starting even ten years ago, the steel price index is now 164 while the paper price index has advanced only to 134.

He said, "While we must continue and intensify our generally successful control of all costs in manufacturing, marketing and management, and must, particularly, inform our employees of the dangers to the permanence of their jobs and the impediment to their development of more valuable individual skills which lies in overmanning our facilities, we must, when we have done these

LUNCHEON HEAD TABLE—Dean Brosché, Corn Products Sales Co.; Wayne Crannell, Patton Mfg. Co.; Harry Weston, PIMA.

LUNCHEON HEAD TABLE—Alfred M. Hartley, Nopco Chemical Co.; Robert S. Davis, Brandon Sales; Ken Youngchild, American Cyanamid Co.

PAPERBOARD SESSION—Fred P. Ritchie and W. H. Richards, Container Corp. of America; Irving H. Peters, Huyck Felt Co.; C. R. P. Cash, and Dr. R. W. K. Ulm, Fibreboard Paper Products Co.

LUNCHEON HEAD TABLE—Speaker W. R. Adams, president, St. Regis Paper Co.; at left, A. C. McCorry, St. Regis; at right Richard A. McKay, Holyoke Wire Cloth.

things, get a fair price for our product.

"Our customers, the American people, in all their versatile pursuits of business, education, religion, recreation, and the home, are going to need twice as much of our product by 1975 and unless there is a fair return on the billions of dollars it is going to take to build the mills, there may be some serious and costly shortages on the way. It is one of our many responsibilities to those people to prepare now with reasonably higher prices."

Papermaking Sessions

An excellent and varied program of papers was offered to those attending the convention. General topics covered were pulp, converting, fine papers, paperboard and personnel relations.

Revealed for the first time at this meeting was a new type of barker which was the subject of a paper by A. P. Schnyder of the Lummus Co. called the "Tunnel Barker." This is a new invention for barking commercial size pulpwood ranging from four to ten feet in length and four to twenty-four inches in diameter. It includes working parts of the conventional trunnion type barking drum with the revolving drum being replaced with an "open" scroll sweeping the circular tunnel which supports the logs. The barker consists of: a concrete structure which in one block includes foundations, providing the lower half of the tunnel with built-in continuous grillage, bark collecting and conveying trough; semi-circular steel plate sections forming the upper half of the tunnel; the operating mechanism consisting of an open scroll with triangular pushers attached to riding rings, ball gear and drive of the trunnion drum design. In operation, the unbarked logs are fed by overspeed rolls lengthwise into the tunnel, landing approximately parallel to the logs rotated in the tunnel. Barking action is predominantly by friction and some impact against the concrete tunnel wall. Bark release is direct through an almost continuous grillage which limits the maximum size of bark particles and prevents long strings. Its advantages over existing barkers are said to be: better performance, greater capacity, minimum maintenance, improved bark release, built in bark collection, minimum operating manpower, minimum loss of acceptable fibers, and perhaps less drive horsepower.

Mill Standards

A significant paper given by Eugene G. Ingalls, of Fibreboard Paper Products Co. was "How Mill

CONVERTING SESSION—Tom S. Coldewey, St. Joe Paper Co.; Richard W. Loheed, Charles T. Main, Inc.; James Goff, Michigan State University; Richard W. Porter, Paperboard Packaging.

Standards Help the Production Department."

Mr. Ingalls first defined mill standards as including norms for safety; for material quality, whether raw material, in process, or finished goods; for crew size; for formulation; for equipment utilization; for production rate; for costs and for other variables. Then, illustrating the "How" of how mill standards may help production, he chose a specific example—operating cost standards with particular reference to the primary purpose of a production unit —to produce, on time, a quality product at a cost yielding a profit.

It was pointed out that all mills use some type of cost standards as a check sheet to tally their successes and as a guide to future action. A novel concept was developed by Fibreboard so that cost standards could be developed to really serve as a guide to improved production performance. It is called the "High Standard." This is developed by calculating the theoretical ultimate performance which can be expected from a particular productive unit or cost center under idealized conditions. This is converted to dollar values in the manner previously used to develop cost budgets, and establishes a performance goal which is not tied to history, but rather to the capabilities of the production tools. Mr. Ingalls then gave a specific example of this concept, using data for a ten-foot trim specialty paper machine to illustrate the fact that the "High Standard" can be a powerful incentive toward leading production efficiency much closer to 100 per cent of theoretical efficiency than it is today.

Bleaching at Potlatch

"Chlorine Dioxide Bleaching at Potlatch" was the title of a paper by Donald T. Keller, general production manager at Potlatch Forests, Inc., and Walter Christiani, sales engineer, Dorr-Oliver Co. The paper covered the background of bleached pulp production at Potlatch's Lewiston, Idaho, mill where one of the earliest chlorine dioxide systems in this country was installed in 1953. Demands for increased production made it necessary to operate the chlorine dioxide bleach tower far beyond its designed capacity and plans were made to install a new concentric design of bleach tower with a center upflow tower and an outer downflow tower surrounding it. The construction of the tower was discussed as well as the actual operation. Started up in November 1959 the Dorr-Oliver tower has been shown to have several advantages over conventional towers. High brightness has been achieved and color reversion has been substantially eliminated, while chemical costs were reduced by over three hundred dollars per day. Retention time has been increased from one and a half to five hours.

Glen T. Renegar
Third Vice President

L. W. Murtfeldt
Fourth Vice President

Genetics

Naming the forest industry's tree improvement program as the longest term research and development project in American business, W. D. Hagenstein, Industrial Forestry Ass'n., discussed the importance of better forestry and improved trees to get the most out of our shrinking forestland resources. He declared that goals of their association were: a source of better tree seed for the association nursery; a source of high elevation seed; and development of trees which will survive adverse conditions, produce prolific seed crops, resist insects and disease and provide better wood.

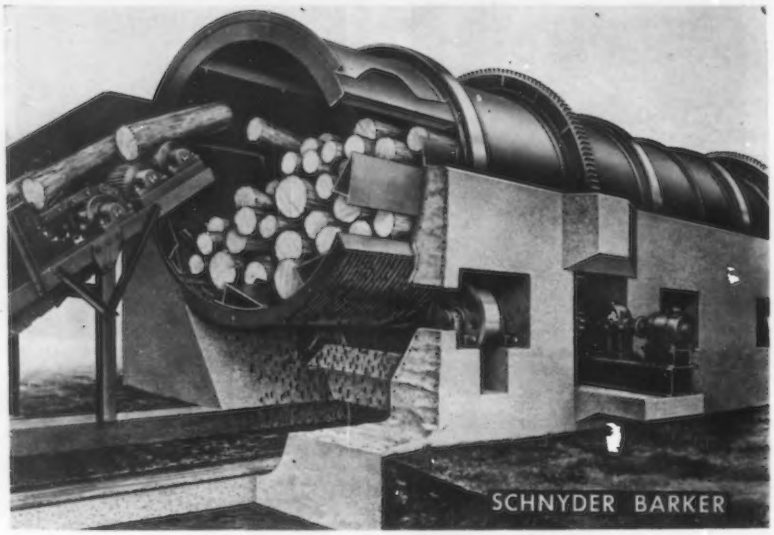
Tomorrow's Leaders

You can make leaders or you can steal them from other companies. Those are the two sources according to R. H. Hubin of General Electric Co., whose topic was "Training Tomorrow's Industrial Leaders." He named as characteristic of a climate conducive to development of personnel: opportunities, recognition, true delegation of responsibilities, and democracy (the freedom to recommend, to object, to make mistakes). The most important factor in personnel development he said, was the concept the individual manager has of his job of managing.

Mill Tours

The last day of the meeting was reserved for tours to mills in the area surrounding San Francisco. On the agenda were Crown Zellerbach Corp. and Fibreboard Paper Products Corp. in Antioch; Container Corp. of America, at Santa Clara; International Paper Co. at San Jose; Andre Paper Box Co.; St. Regis Paper Co. and Western Corrugated at San Leandro.

PULP SESSION—John W. Lehman, Tennessee Valley Authority; Owen W. Bentley, Crown Zellerbach Corp.; L. W. Murtfeldt, Consolidated Water Power & Paper Co.; Charles E. Young, Weyerhaeuser Co.



Feed end of the Schnyder barker. The lower concrete half at the feed end has a cut-off wall which had to be omitted from the picture for clarity.

Completely New Design of Log Barking Equipment Announced

The most interesting paper on the PIMA program from the point of view of mill men was the description of the Tunnel Barker, because this was the first announcement or description of this new machine. We, therefore, describe it in some detail in the following paragraphs.

Construction

The tunnel barker uses a concrete structure which in one block includes foundations, providing the lower half of the tunnel with built-in continuous grillage, bark collecting and conveying trough or conveyor; A semi-circular steel plate section forms the upper half of the tunnel; The operating equipment consists of an open scroll with triangular pushers attached to riding rings, bull gear and drive of the trunnion drum design.

The recesses and openings in concrete structure accommodate riding rings, trunnion wheel support, bull gear with drive, and grillage frames. The semi-circular section of the concrete proper, is lined with an impact- and abrasion-resistant Emery Crete. This material is successfully used for protection of aprons alongside a few woodyard flumes.

The grillage frame proper is constructed with heavy steel plate strips, bent on end, placed crosswise to the tunnel axis. Some strips have removable attachments with inside end bevelled to a dull cutting edge which project a trifle from the inward face of the frame proper, for the purpose of cutting incisions into the bark. They can be attached from underneath, the bark trough serving as access aisle.

A standard inclined chain conveyor with log-pusher attachments delivers logs to the first, grooved overspeed roll which is followed by a second, centering type provided with diamond shaped spikes. Two overspeed rolls bounce the logs length-wise into the tunnel. A collecting cluster of logs are pushed circumferentially in the tunnel by the scroll's triangular pushers, as well as slightly forward by projecting ribs on the contact surface of the pushers.

A. C. McCorry
Retiring President

A conventional dam is provided at the discharge end. It is doubtful if this dam is necessary. Without the dam, logs will be removed by spiked rolls placed forward from the discharge end proper.

The barking tunnel and the drum are of similar size, 12 ft. diameter, by 48 ft. or 72 ft. in length, depending upon the number of scroll sections, each of which is 24 ft. in length.

Operation

The unbarked logs are fed by the overspeed rolls length-wise into the tunnel, landing approximately parallel to the logs rotated in the tunnel. This stacked arrangement of logs prevails throughout the full length of the tunnel with the help of the pusher's action. The parallel position of logs causes barking by friction between sticks helped by the heaving action of the triangular pushers and impact against the tunnel wall.

The grillage bars providing for the bark release assist the barking action proper with the bars, spaced on 3 in. centers, impinging and cutting rings into the bark.

The grillage bars at certain intervals have the bevelled and inward projecting segments to cut incisions into the bark when handling hardwoods.

The pushers move the cluster of logs around the tunnel without any predictable forward movement, except for projecting ribs on their contact surface placed on a forward pitched angle, so that the charge will move from the feed to the discharge end on a preset time cycle.

The logs within the tunnel being in a stacked arrangement as compared to the "strawpile" tumbling position in the barking drum, benefits the capacity of the tunnel barker. Brooming of log ends is reduced to a minimum. Similarly, the pounding of sand and dirt into log face is avoided. The smaller logs are less likely to break, due to avoiding of tumbling action.

Something Can Be Done About the Finishing Department—IX

Digital Computers Can Help Planning And Scheduling for Better Finishing

Application of a computer to the planning and scheduling functions of a printing and writing grade paper mill presents a very interesting subject for discussion.

In a previous article in this series, (April 4) on contributions scheduling can make to the finishing department, we promised to discuss the use of computers. The benefits of good scheduling were there illustrated by particular examples for a typical 300-ton paper mill. The more detailed analyses of the characteristics of orders and the speed by which these analyses can be obtained with a computer can prove scheduling. The more complete the information used to prepare the schedule, the better it will serve the finishing department.

Data Processing Device

It is first advisable to define a digital computer in non-technical terms. The scientists who are steeped in the technical knowledge necessary to program an electronic brain might be very surprised at the description here. A digital computer is a calculating machine which, in addition to being able to perform all mathematical functions, has a memory or in its simpler form, a punched card file where data can be accummulated for future reference and processing. Therefore, the less expensive equipment which first code punches cards to accummulate information for future reference and then tabulates the information, whenever called upon, may be considered a simple form of computer. The electronic or magnetic type of computer and equipment to perform the complex mathematical functions, is the higher form of data processing equipment. The big advantage of the latter is the speed with which it can accummulate and withdraw the information. Hence, the type which can be justified depends entirely upon the volume of work required. The auxiliary equipment for special tabulating, invoicing, etc., is justified also by the volume of each category of work load.

This article will not deal with the specific equipment required to perform the functions which are discussed, but rather will spell out functions which can be performed and their usefulness. The object is not only to discuss the usefulness of performing these detailed functions for the benefit of the paper mill planners but even to go so far as to attempt to enlighten the scientists as to what functions their brain children can perform for a paper mill. This latter purpose seems quite important because, to date, it has been impossible to contact.

1. A computer expert who has sufficient knowledge of fine paper mill planning and scheduling details to set up his machine to do all the useful work is capable of performing and

2. A fine paper mill scheduling and planning authority who knows all of the functions that a computer can do towards improving the efficiency of the finishing department while at the same time continuing the standard of customer service required.

Manaufacturers Ask for Applications

In his excellent paper on "Paper Processing in the Paper Industry" presented to the Delaware Section of TAPPI at Philadelphia, Pa., Jan. 21, 1960, Gilbert A. Shedd of International Business Machines stated:

"A problem which is nearly distinctive to the paper manufacturing business is the "trim problem." This has received some publicity over the past year and several articles have been published in trade magazines suggesting a mathematical solution using computers of different capacities. There is no question but that a slight improvement in efficiency here can result in a large cost saving. The reward for success will be great. I am sorry I know of no company with the solution completely worked out, although many are working on it and have tried solutions. This does not mean it will not be worked out but only that work remains to be done.

The problem has been approached by means of linear programming and solutions have been secured. We find, however, that in individual companies, working with actual orders, the normal situation is a wide variety of requirements on a few orders to be produced to meet short delivery schedules and no inventory production.

The restrictions permit little grouping of like specifications to be trimmed and scheduled at the same time. If you do not have a variety of orders to be trimmed from the same specifications, the selection to be made is limited and fairly obvious. We hope in the future to expand the selection or to be able to develop a machine approach to more phases of the problem. This will permit com-

puters to enter in area where large savings can be realized. Here, in this type of problem, we are particularly eager to receive suggestions from people in the industry. Only the mill people who really understand the problem can define it and suggest the ultimate approach to the best solution."

Supply Inventory Controls

Computers have capacity to supply inventory controls which save floor space and pickup labor. There are computers in use which produce once each day, the information necessary for maintaining warehouse stocks of finished items between the pre-determined minimum and maximum quantities. Some of the electronic computers also answer queries (in batches) as to how much available inventory of an item is on hand and when the next replenishment order is scheduled to arrive at the warehouse. Provided the computer has sufficient time available to answer all of the sales enquiries that come in each day, this should improve customer service. However, for the finishing superintendent who is faced with the ever present possibility of being short of storage space, another function could be performed.

First of all, the computer could furnish the total inventory of an item on hand and, in addition, a forecast of balances to be on hand for each day of the next two weeks. This would be used to guide the scheduling clerk who has to schedule replenishment orders. Thus the replenishment stock would arrive at the warehouse theoretically on the day the forecast balance was reduced to the pre-set minimum actual inventory level. This would save space because when replenishment orders are placed when the available inventory is reduced to the minimum, an unknown quantity of committed paper is still in the warehouse occupying floor space. In fact, if the order quantity is sufficient to raise the available to the pre-set maximum, frequently there is so much still in the warehouse that there is not sufficient space in the allotted area for the item to accommodate all of it and some has to be placed in an overflow area. As there is no assigned area for the particular item in the overflow area when it comes time to ship, the pick-up time is doubled and trebled because of difficulty locating it. The added advantage is that if stock replenishment is scheduled for the same day as shipment, that item can be delivered directly to the shipping platform from the finishing line. Thus, re-handling is saved.

Probably the above will be clarified by an illustration. The orders received for "item x" on a certain "date y" reduce the balance of stock of "item x" available to 100 cartons which is the pre-set minimum for "item x." However, on that certain "date y," there are also 300 cartons of "item x" in the warehouse which have been sold but not loaded. So the stock control clerk places a replenishment order of 200 cartons which is the re-order quantity. However, when the replenishment order arrives from the finishing department, there still remains 300 of the original 400 on hand at "date y." Thus, the actual storage space required for "item x" is 500 tons. However, the regular space allocated for "item x" will accommodate only 400 cartons and hence 100 cartons must be placed in the general overflow area. When this occurs for 300 or 400 items, it can complicate the locating problem when shipment is required, beyond normal shipping manpower capacity.

The scheduling clerk can use the computer to prepare daily information to provide for scheduling of paper machines to suit shipping schedules.

Can Prepare a Packing List

While on the subject of shipping, there is one additional function which auxiliary equipment with the computer can perform to improve the adherence standard of the shipping department. Improvement in adherence standard is in direct inverse ratio to the number of broken shipping promises. A 'consist' list describing the complete details of the number of cartons, skids or rolls, and weight of each order to be placed in the car can be supplied to the shipping foreman. Thus he can, before the truck or car is released, check the single item loading orders to see that all of the items required are loaded and, if short, he can take special action to obtain a replacement of the shortage. This list is very useful at the receiving end as well, because when up to 100 items are contained in the load, there is a very good chance that one or more or the orders can get mislaid or even lost.

Scheduling Paper Machines

The scheduling clerk can use the computer to prepare daily information to provide for scheduling of paper machines to suit shipping schedules.

We have covered one function which should save floor space in connection with stock paper. There is another service which can be facilitated by a computer to save floor space in the car make-up area occupied by customer specials. For customers or groups of pool car customers whose average requirements are not more than one carload per month, it is quite common to find the first part of the carload in the make-up area during the first week of the month. Hence, it occupies floor space for at least three weeks. If there are 20 or 30 of these customers, it is possible to occupy large blocks of floor space in the make-up area. If the computer furnished the scheduling clerk with daily accummulations of (a) make-up paper on hand and (b) forecast of paper scheduled to be accummulated for each destination the scheduling clerk could defer manufacturing the bulk of the paper until the week in which the car is to be dispatched. This would not only save floor space but would also free paper machine time in the earlier weeks to make paper for carloads which could be accummulated earlier and thus the service to customers for the latter paper would be improved without hurting service to the less active customers.

Scheduling Finishing Operations

The scheduling of paper machines by controlling the daily balance of cut size versus parent size sheets to fit the capacity of each line, should be possible with the help of a computer in spite of the large number of small orders. When an attempt is made to schedule the paper machines by manual methods, the manpower and time delay prevents the segregation of the daily production into junior and parent size. Thus, we use other rough methods which cause one or more of the finishing lines to run out of paper during the week with obvious lost time. Also these rough incomplete methods cause o erloads which overcrowd the surge areas between operations necessitating overtime premium wages to be paid and wasteful re-handling.

I have experienced repeated oc-

currences of this and always felt cheated because the manpower wasted could so easily be saved by adequate planning. I have illustrated balance between junior size and parent size sheet production. This same problem exists in connection with the control of the daily balance of sheets versus shipping rolls, large cutter rolls versus small cutter rolls, rewinding rolls versus cutter rolls, etc. The computer should help to provide for each individual finishing operation, the detailed planning required to maintain work in process at a level not too low to cause lost time on the succeeding operation or too high to cause re-handling.

Sales and Cost Analyses

Computers can tabulate large volumes of small orders which are so important to guide long term planning as well as scheduling. The use of computers for sales analyses, cost analyses and regular reports of efficiencies is well known in all industries. Only the use of these analyses which will be of assistance to the finishing department are listed below.

1. Sales analyses of each item can be used to great advantage to plan equipment changes, storage areas and operating demands in advance.
2. Cost analyses can be used to check the results of each change in method, requirement of improved designs, etc.
3. Efficiency reports can be prepared with no delay and immediate action can be signalled.

All of these and many other benefits to the finishing department can be obtained by means of some form of computer which will make it possible to accomplish more investigations and therefore arrive at better qualified decisions in connection with scheduling, operation of equipment and even with respect to adequate employee performance.

Editors Note—

This is the concluding article of this series, "Something Can Be Done About Finishing." Next week the author will answer questions raised by one of our readers in connection with the article "Finished Paper Warehouse Requirements." Conclusion of this series does not mean the end of our "Product Finishing." as outlined earlier we have further ambitious plans under way. If our readers will continue to send in their criticisms, comments and suggestions it will aid our further efforts. The author of "Something Can Be Done About Finishing" has promised to answer questions from our readers about this series.

Scenes from FPL Centennial

(Received too late for inclusion with article in last week's issue.)

▲ This plaque was presented by APPA. Shown at presentation are, l. to r.: G. H. Chidester, FPL pulp and paper chief; Director E. G. Locke; H. E. Whitaker, APPA president, and board chairman, Mead Corp.; J. A. Staidl, retired research engineer, who worked on the laboratory's original semichemical pulping.

Predictions of great changes in pulp ► and paper manufacturing in the next 30 to 50 years were voiced by H. E. Whitaker, president of APPA, one of the principal speakers.

◄ A busy man introducing speakers, accepting scrolls, plaques and other honors, acting as host for out-of-town guests, was Director E. G. Locke.

How one manufacturer benefited ► from FLP research was told by President S. W. Mead of Consolidated Water Power & Paper Co. as he introduced Wisconsin Governor Gaylord Nelson.

◄ F. K. Weyerhaeuser, board chairman, Weyerhaeuser Co., said that our industry spends about one per cent of each sales dollar on research and on lumber research considerably less.

All Aspects of Waste Paper Generation, Distribution and Utilization Examined

Sponsored by Waste Paper Utilization Council, first meeting of its kind provides a more appreciative understanding of present problems of paper stock industry.

Harry Dyer,
Assistant Editor,
Paper Trade Journal

Segments of the waste paper complex, whether he be a generator, a dealer, or a consumer, probably have a more mutual understanding of each other's problems due to a unique symposium held May 7-8 in Chicago. It is the first time a meeting has brought together the three separate segments of the waste paper industry all at one time. A vast array of subjects was examined. Although nothing new or startling was revealed, one came away from the session with a deeper appreciation of a valuable commodity—waste paper, or what is now more appropriately termed "paper stock." The two-day symposium was sponsored by the Waste Paper Utilization Council and was held at the Conrad Hilton Hotel in Chicago. More than 250 persons from around the country were in attendance. An excellent array of specialists presented over 23 papers which described the past, present, and future of the waste paper industry. Waste paper and the Food and Drug Law, a subject of vital current concern, is presented in greater detail later on.

Presiding at the various sessions were: opening session, Wm. H. Caddoo, vice-president, Continental Can Co.; Tuesday afternoon, H. Shilling, president, U. S. Paper Supply Co.; Wednesday morning, P. J. White, president, Great Eastern Packing & Paper Stock Corp.; Wednesday afternoon, D. W. Bergstrom, vice-president, Bergstrom Paper Co. Moderator for Wednesday afternoon's panel was Ralph W. Kumler, manager of the Waste Paper Utilization Council. U. S. Paper Supply Co., and Pioneer Paper Stock Co. were hosts at a reception held Tuesday evening for those attending the meeting. It was announced that the second symposium will also be held in Chicago next year.

Bigger Problems Ahead

Ten members of industry representing particular phases of the waste paper complex participated in a panel discussion that adjourned the meeting Wednesday afternoon. In general each panelist felt his particular product would receive greater and more specialized uses in the future. These would tend to create bigger and more complex problems for the generator, dealer, and consumer of waste paper, but that practical solutions to these problems were not insurmountable.

Three Major Segments

What makes up the waste paper complex? Dedrich W. Bergstrom, vice president of the Bergstrom Paper Co. and chairman of the Waste Paper Utilization Council, replied to this in the opening paper. He Said:

"The banner of the Waste Paper Utilization Council . . .

". . . graphically portrays the three major segments. Represented here are the generator, the dealer, and the consumer. Eliminate any one of these three and there could be no waste paper or paper stock industry. Each is completely *interdependent* upon the others. Only through complete and friendly cooperation between all three can we solve our mutual problems quickly and economically and get on to tomorrow's job today.

"Who or what is this generator? Let us define him as one who turns out quantities of waste paper by one or more methods. He may be using paper or board as a raw material, thereby generating waste paper as a by-product. Or he may "generate" incidentally because of his use of raw materials packaged in paper. We cannot overlook office waste paper which every business generates; nor do we wish to ignore church, boy scout and other paper drives.

"There's a big IF . . . 'If' he treats his waste paper as a merchantable commodity. He can learn what is good waste paper and what the contaminants are. The generator has the best opportunity among all of us to remove contaminants because he, after all, knows what is going through his operation.

"A supermarket operator can have his stock boys pull and destroy the corner tapes from his corrugated boxes after their contents have been removed. The supervisors of waste paper drives can be educated to make sure that their collectors know what is good and bad for waste paper. All too frequently never considered is this: if the generator has better and cleaner waste paper in the long term pull he is going to get better and cleaner board or paper from his supplying mills.

"The second side of our triangle is the dealer. The dealer collects waste paper from the generator and after processing this material has the finished commodity for sale. The dealer's product must meet exacting customer specifications. The stature and growth of the paper stock industry depends upon the degree perfection is attained in meeting those

W. H. Caddoo
Vice President
Continental Can Co.

specifications. Hence, the paper stock dealer must maintain close and continuing liaison with his generators if both are to keep their customer, the paper stock consumer.

"To date, the dealers have done a tremendous job in the mechanics of their operation. But I firmly believe that they, along with the generators and consumers, have only scratched the surface as far as the potential of the paper stock industry is concerned.

"The consumer—be he paper, boxboard or roofing mill, purchases his requirements of paper stock from the dealer. He may have elaborate paper stock handling equipment. He may do deinking and deasphalting and step on to complex screening and cleaning systems. Even so, a small amount of certain kinds of contaminant in his paper stock can cause great difficuties. No two consuming mills, at least to my knowledge, have identical waste paper consuming systems. These operations range all the way from a simple breaker beater and a flat screen to the deinking system which starts with a sorting belt, to a hydrapulper, to a jordan, to vibrating screens, to centrifugal type cleaners, to three or four or more stages of washing, three stages of bleaching, and then more vibrating screens, centrifugal cleaners, and other mechanical and chemical operations to numerous to go into here.

"Consumers must assist their dealers much more by informing them what they can or cannot use. This third man of our triangle, the consumer, must coordinate and cooperate to a greater degree with the middle man, the dealer."

Sees Waste Paper as Stabilizer

The second speaker described the prospects of waste paper in the total fiber supply in the United States. He was James L. Richie, executive director of the U. S. Pulp Producers Ass'n. Following are several of his remarks.

Of the total volume of fiber currently used in U. S. paper and paperboard manufacture, about 74 per cent is primary fiber (virgin fibers—wood straw, reeds, grasses, cotton rags, hemp, synthetic fibers) and 26 per cent secondary fiber (waste paper). About 96 per cent is currently based upon wood fiber, virgin or reclaimable. Generally speaking, relative demand for waste paper rises when the domestic supply of primary fiber fails to keep pace with the growth of requirements, and falls when primary fiber capacity is expanding more rapidly than requirements.

Thus, in the early years of the present century when the domestic supply of primary fiber was plentiful, secondary fiber constituted less than 18 per cent of the industry's total consumption of fibrous raw material. In the early 1940's, under pressure of war-time need, relative demand for secondary fiber rose sharply; by 1944, secondary fiber constituted 36.6 per cent of total fiber consumption, an all-time record high. The salvage rate (ratio of waste paper consumption to total paper & board consumption) for waste paper is currently lower than it has been at any time in the past fifty years. Conversely, idle reserve "capacity" in the waste paper segment is currently at its highest level in over 50 years.

Production of waste paper at maximum practicable "capacity," as measured by peak historical performance, would result in a current annual supply of 13.7 million tons of waste paper. Actual recovery is currently at an annual rate of 9.2 million tons. "Idle" capacity in the waste paper segment, accordingly, totals 4.5 million tons. Current operations on this basis are at 67 per cent of maximum practicable "capacity."

J. L. Ritchie
Executive Director
U. S. Pulp Producers Ass'n.

R. W. Kumler
Manager
Waste Paper Utilization Council

The cold economics of fiber supply will some day dictate a sharp rise in the waste paper salvage rate. How soon this will come about depends upon the course of development of any number of economic factors, most of them beyond the immediate control of management. Our own guess is that the economics of expansion, and of raw material supply for expansion, will continue to favor virgin wood pulp over secondary fiber for at least the balance of the current decade. While physical consumption of waste paper should continue to increase over the next decade, significant growth in *relative* reliance on waste paper may be delayed until sometime after 1970.

Some day, certainly, domestic wood pulp will encounter more intensive competition from other fibers. Technological progress will determine, in due course, the nature of this new competition.

If domestic wood pulp tends to become either scarce or costly, it is possible that the paper industry, geared as it is to the use of wood fiber, may once again look first to foreign supply sources to supplement its domestic fiber supply. The most likely source of supplemental supply could, in due course, turn out to be South America. South America has more forest acreage than North America, and a faster growing cycle. Until conditions are ripe, South America is not likely to become a serious competitor in the U. S. fiber economy. Within 30 years, however, we believe that this type of competition could well begin to materialize on a significant scale.

More imminent, perhaps, although in our judgment still at least a decade off, is the prospect of growing competition from other primary fibers. Of these, the most promising appear to be reeds, straw and grasses, on the one hand, and synthetic fibers on the other.

JUST HOW BIG IS THE WASTE PAPER INDUSTRY?

The generators. Printing plants now number between 35,000 and 40,000 throughout the nation. There are 1,854 daily papers, 11,315 weekly and otherwise published. Every day, 58,000,000 newspapers are printed, and a total of over 8,400 magazines and periodicals are presently issued. Life magazine, alone, accounts for 7,000,000 copies every seven days. Just last year, over a quarter million tons of tabulating card stock was produced. Every day 765 corrugated box plants spew out thousands of boxes to carry the goods of commerce. A great number of these boxes find their way into our 20,143 supermarkets and 101,000 independent grocery stores. Waste paper from the 68,366 commercial buildings in New York City amounts to hundreds of tons of potential paper stock each day.

Consider that in 1955, 1.4 million tons of waste paper were collected in New York City which has an area of approximately 315 square miles. It would take 7,000 square miles of forest land to produce enough pulpwood to equal that amount of fiber.

Paper stock dealers—the men in the middle—number approximately 1,500. And finally, consumers . . . 105 paper mills, 220 boxboard mills, 75 building products mills.

Synthetic fibers have been tried experimentally and on a limited scale, there have already been commercial runs. It is conceivable that synthetic could someday become a serious competitor. It seems unlikely that this will happen within the next decade. It is well to bear in mind, however, that the customary approach of the chemical industry is one of sudden breakthrough, rather than of cautious evolution.

If synthetic fibers in fact become a significant factor in paper manufacture, the problems of paper salvage will become infinitely more complex than they are today. Today's salvage problems relate primarily to the rejection of what the British label "pernicious contraries": i. e., plastics, resins, glues, waxes, inks, etc. The rejection of synthetic fibers, as distinct from pernicious contraries, could in due course become too costly to be economic. While the development of suitable reclaiming techniques may also be costly, failure to take timely action, if action is required, could prove even more costly.

Secondary fiber will continue to compete against the entire field of primary fibers. In volume, variety, quality and price, waste paper is steadily becoming relatively more attractive as a papermaking fiber. The lower the salvage rate, the greater the relative economic appeal of waste paper. At some point, perhaps a decade hence, the downswing in the salvage rate will be reversed, and waste paper will become a factor of increasing relative importance in the growth of the domestic fiber economy —*for a time.*

We stress "*for a time*" because one of the major functions of the waste paper segment, historically, has been to cushion swings and shocks in the overall fiber economy. Waste paper, in all probability, will continue to serve as the fiber economy's built-in stabilizer. In the performance of this function, the waste paper segment may be subject almost continuously to stresses and strains. For this reason, volatility could well continue to be a characteristic feature of waste paper trade.

Finally, favorable growth rates in the waste paper segment may be contingent upon one other factor—namely, more aggressive research. Changes in the physical and chemical characteristics of primary fiber supply could conceivably be far more revolutionary in the future than they have been in the past. Producers and consumers of waste paper, to remain competitive, must be prepared to meet any challenge that revolutionary changes in the nature of primary fiber supply may present.

Vital Part of Fiber Economy

Arthur U. Claghorn, president of Pioneer Paper Stock Co., portrayed the role waste paper has played in paper and board mills. "Paper stock consumption by paper and board mills," he said, "has, in 10 years, only increased from 8 million tons to 9,200,000 tons. This is an increase of just 15 per cent, compared to the increases of 55 per cent for wood pulp and 65 per cent for wood. Even if we allow for the wood fibers that went into pulp manufacture, paper stock's gain in use has been disappointingly slow. Consider that out of a total increase of 15 per cent in consumption in the past 10 years, 6 per cent of that increase came in 1959. Does that indicate greater use of paper stock fibers per ton of new production, or was the increase solely due to better running time at the waste paper consuming mills? It was due solely to increased running time, not to the displacement of other fibers. Actually, paper and board production increased 3,200,000 tons over 1958, while paper stock consumption increased only 500,000 tons.

"Ten years ago the mills produced 24,400,000 tons of paper and board, while consuming 8 million tons of paper stock. To put it another way, paper stock amounting to 33 per cent of new production was being consumed. Following this line of reasoning, we can assume that one-third, or 11,300,000 tons of the 1959 new production was available as paper stock. This means that mill consumption was 2 million tons less than theoretical available supplies. Let's look for the reasons.

"First, we know there has been a large increase in the production of the so-called "sanitary papers" of the type that are not recoverable. Secondly, we know that the past 10 years has seen the rapid development of special treatments such as wet strength, laminations, carbon-interleaved forms, and many other specialties that create waste paper not suitable for mill consumption. Neither of these reasons seem to me to be the real crux of why paper stock has failed to keep its position in the total fiber consumption.

"It is my considered opinion that the paper and paper board manufacturers' all-out devotion to quality in the finished product is what has caused paper stock to lose ground to other fibers. Many consumers not having the necessary mechanical equipment required to properly and efficiently treat paper stock fibers are substituting wood or pulp in their efforts to obtain a competitive quality. Furnish costs are a matter of secondary importance! Yet furnish costs are the advocate of paper stock fibers. With some minor exceptions, paper stock costs the consuming mill considerably less than wood or pulp fibers. Therefore, so long as paper and paper board quality is dominant, and a stronger force than cost, just that long will paper stock fail to keep pace with the total fiber consumption. Should cost gain in importance, and mills speed up their investment in equipment, paper stock may regain its once-important role in the total fiber supply."

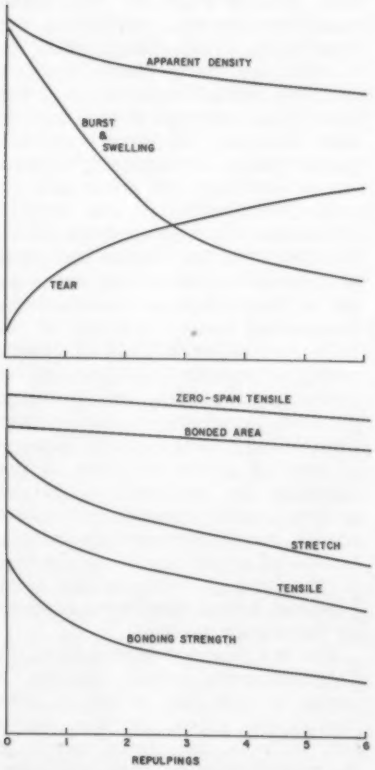
F. P. Doane, Jr.
Vice President
Bergstrom Paper Co.

G. E. Prokupek
Technical Assistant, Board Mills
Robert Gair Paper Products Group
Continental Can Co.

R. W. Hynes
President
Newton Falls Paper Mill

Nature, Economics of Used Fiber

R. C. McKee, chief of container section, Institute of Paper Chemistry, led off the afternoon session with a report on the "Nature of the Used Fiber." He demonstrated graphically how successive repulpings generally weaken a reused fiber. His sample was a kraft pulp, refined to a standard freeness and tested after each of six successive repulpings. Sketches of the graphs below show these strength properties after each repulping.



Effect of repeated repulping on fiber strength and other characteristics.

The "Economics of the Used Fiber" as related to the high grades and bulk grades of paper stock were described in the following papers.

High Grades—Deinking; Foster P. Doane, vice president, Bergstrom Paper Co. "Stated simply, it is to produce a usable pulp from various grades of waste paper, at a price sufficiently below the market cost of virgin pulp to be competitive with the pulp costs of an integrated mill." How to do This? better sorting . . . better baling . . . stable prices for waste paper . . . new standards of cleanliness and uniformity in paper stock . . . understanding by mill of dealers problems . . . reduction of chemical and steam costs . . . more careful screening . . . deinking systems designed for a specific mill . . . better waste disposal.

High Grades—Nondeinking; G. E. Prokupek technical asst. board mills, Continental Can Co. Using an actual example, Mr. Prokupek illustrated how the use of hard and soft white shavings waste in the top liner of white patent coated board had advantages over a pure pulp furnish. Both furnishes were found to be equal in brightness; the pure pulp furnish was nearly 10 per cent stronger. Cost per ton for the pulp furnish was $30.95 more than the waste paper furnish. Savings in chemicals and refining horsepower, were also realized in the waste paper furnish. Better formation also resulted, Liabilities in the use of waste paper in the furnish included greater storage space and handling charges, contamination, non-uniformity in color and in fiber strength.

Bulk Grades; James J. Harrison, Federal Paper Board Co., Inc.

Present and future problems in the paper stock industry were discussed in three papers during Tuesday morning's session and by a panel in the afternoon.

Present Problems

The Generator; C. P. Michelsen, director, By-Product Sales, R. R. Donnelley & Sons Co. The biggest problem the generator has to overcome is the feeling that paper scrap has little or no value. What adhesives to use in flying pasters, bindings, etc., form a second problem. A third is the recognition by waste by-product handlers of asphalt and other waterproof wrappers and how to dispose of them. The use of metallic inks, coatings, latices, tip-ons, booklets, and inserts, and other gimmicks present further complications to the paper stock consumer, which, while being "good for our business" require a compatible solution.

The Dealer; Haskell Stovroff, president, Buffalo Stock Paper Co., Inc. The dealer does not want the price cycle that now characterizes this segment of the industry. . . . One complaint of the dealer is that too little consideration is given to the dealer's problems by the consumer . . . the dealer also needs a clearer understanding of the consumer's requirements.

The Consumer—High Grades; R. W. Hynes, president, Newton Falls

J. C. Morris
Senior Vice President
Packaging Corp. of America

Paper Co., The consumers cannot continue to pressure the dealer, or "shop" for the best prices if he wants better sorted, better quality paper stock. . . . The consumer must also enlist the generator as a partner. Mr. Hynes then told how his mill has continued to use the same dealer for several years, and to pay for his paper stock a price commensurate with equivalent pulp production costs; a unique policy which has been quite successful.

The Consumer—Bulk Grades; J. C. Morris, senior vice president, Packaging Corp. of America. Three problems are evident, said Mr. Morris. They are: (1) maintenance of a reliable and steady source of raw material, caused in part by a reluctance of the dealer to meet peak demands, and the increasing use of incinerators in large buildings, hotels, etc. . . . (2) maintenance in the quality in paper stock he consumes because of poor baling, sorting, and a failure to favor good baling dealers. . . . (3) growing competition from pulp mills, and the rising cost of raw materials coupled with a steady price for waste paper pulp.

How Does Food Additives Law Affect Paper Stock Industry?

Keith W. Max,
Research and Development,
Continental Can Co.

The Food Additives Amendment which became effective March 6, 1960, did not change the basic concept of the original Federal Food, Drug and Cosmetic Act. But there were a few very significant modifications: first, it placed the burden of proof on the food manufacturers rather than on the Food and Drug Administration; secondly, it further implicated the quality and purity of food by imposing requirements on the auxiliary aspects of packing, packaging, transporting or holding of food; and thirdly, it specifically established a zero-tolerance for any additive if it is found to induce cancer in man or animal.

The language of the Amendment and the instructions for procedure and approach to compliance are written so as to bear specifically on direct, intentional food additives. This question must then be answered —what materials and in what amount, may transfer to food (or may reasonably be expected to transfer) from the package under the conditions of intended use? Each individual packaging application must be analyzed separately, unless it can be demonstrated that the package does not contribute a food additive under one or both of two broad concepts: (1) make certain that each individual component of the package is safe as a result of FDA action; (2) design and manufacture the package in such a way that, under conditions of use, migration into the food cannot be reasonably expected. In approaching the first of these concepts, the Food and

Additives Liaison Committee has been established to represent both the Biological and Chemical Research Committee of the National Paperboard Association, and the Chemical Additives Committee of the American Paper & Pulp Ass'n. One action of this working committee has been to make application to the FDA for clearances or extensions on substances, materials and chemicals generally used in the manufacture of paper and paperboard as: (1) generally recognized as safe; (2) having been granted prior sanction; or, (3) to be granted an extension of the effective date of the amendment in order to establish their safety for use. To date, some 500 ingredients have been acted upon and are listed in the Federal Register.

Notably excluded from the Federal Register is waste paper. In an application for FDA action on paper and paperboard made from waste paper, dated Feb. 4, 1960, use was made of the second broad concept listed above. Seven categories of end-use conditions were set forth, in which the types of waste paper used were qualified and restricted depending upon the nature and severity of these end-use conditions. The FDA did not act upon the application, but instead sent a letter signed by the FDA Commissioner and dated Feb. 24, 1960, to the Associations, in which the following statement appears:

Semantics a Problem

"We regard the use of scrap or waste paper in making food containers as appropriate when good manufacturing practice is followed, subject to the following:

1. Such containers are suitable for all food package uses where there is an impervious coating or liner between the food and the material made with the scrap.

2. On the basis of data now available, such containers are suitable for use in direct contact with dry foods which are not fatty foods.

"Of course, where the scrap was itself suitable for all food packaging, no problem would result."

Indeed, this broad statement permits the industry to use some discretion in the selection of raw materials and in following good manufacturing practice, which was outlined in the original application.

What are the problems connected with the use of waste paper in food packaging paper and paperboard? In most instances, the history of waste paper grades is uncertain: original ingredients are unknown, and the colors, inks, coatings, etc., used in conversion are most complex. Therefore the FDA has limited the use of packaging materials from waste paper to those where no transfer could be expected under conditions of use. It is interesting to note that there were no specific qualifications on waste paper grades, but the letter did state "good manufacturing practice." What does this mean? It seems to me that a wise selection of raw materials is imperative. Mixed grades, heavily printed or colored grades, non-uniform grades and contaminated grades should not be used in any kind of food package, even, I believe, where impervious coatings or liners may be used.

The last sentence quoted from the Commissioner's letters permits, it seems to me, the reuse of both food type paper machine broke and suitable conversion scrap in the manufacture of food containers. It is also possible to interpret as satisfactory the use of other uniform

unprinted and uncolored waste where the history of the material is precisely known. This might be extended to certain widely used uniform grades such as printed news, provided specifications could be established for the manufacture of newsprint and the inks used in printing.

What is Impervious

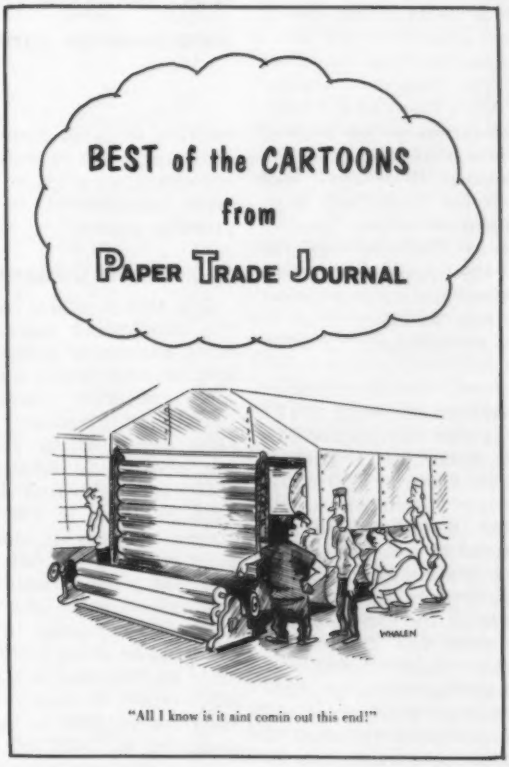
The word "impervious" in the Commissioner's letter is self-explanatory, but again, conditions of use must be considered. For example, wax coating might be satisfactory for wet foods but would be entirely unsuitable for high fat content foods. How wet can a dry food be, and what is a fatty food? Where direct contact of the food with the board exists for a relatively long period of time there is a practical self-regulating aspect to the package which governs its use. A carton which would become saturated by a wet food is impractical; a moist food, however, which may tend to soften a carton but not destroy its structural usefulness, probably would not give rise to any expected migration of the package components. The FDA in reviewing this attitude feels that most slightly water-soluble ingredients have been removed by the papermaking process. On the other hand, the oil soluble constituent in waste paper would not be expected to be removed by the large volumes of water in the process. Therefore, the FDA has specifically taken exception to the use of certain waste paper grades for use in fatty food packages. Here again, it is impractical to pack high-fat foods without a protective barrier. Therefore, those foods which have insufficient fat content to stain seriously on direct contact are not to be considered fatty foods.

What Can Be Done

What can be done to simplify the selection of furnish materials which will meet the Food Additives Amendment requirements? This, I feel, is the responsibility of the waste material dealers, but it is also incumbent upon the user of this material to assist on getting a better and more uniform pack. Specifications for outthrows and prohibitives should be tightened; cooperation with manufacturers, converters, publishers, ink manufacturers, waste paper generators, and others should be improved. A self-imposed program of internal policing of quality and uniformity is essential; it is mandatory that the quality and uniformity of paper stock be improved.

The Commissioner's letter is the only document dealing directly with reclaimed fiber as a furnish for food packaging material. This letter is subject to recall or modification at any time. Furthermore, the current interpretation of the broad terms which I have just discussed is mos. empirical. The Food Additives Liaison Committee, therefore, has reviewed the need for technical data to support the interpretation with FDA. Projects are under way to determine the chemical nature of paperboard constituents and to determine what might be the nature and degree of migration under the conditions of use. These projects are: (1) heavy metal residue analysis: (2) dry food abrasion studies; and, (3) food extraction studies.

There is no doubt that the Amendment has had a significant impact on the use of food packages manufactured from waste paper. In general, however, the current conditions imposed by FDA requirements are not so severe that the bulk of normal uses for combination waste paperboard cannot be continued on a temporary basis.



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World Newsprint Supply Demand Outlook Through 1961

Estimated world demand in 1961 will be 8 per cent above 1959. Indicated production potential is 16 per cent above this demand, sufficient to handle any unexpected increases in consumption.

The revised estimates for 1959 of the world's newsprint production potential, 16,865,000 short tons, and world consumption, 14,352,000 tons, disclose an apparent surplus production capacity of 2,513,000 tons. In comparison, the apparent excess world newsprint capacity over actual consumption was 2,392,000 tons in 1958, and the revised figure of 991,000 tons in 1957.

For 1960, world survey estimates place the production potential at 17,416,000 tons against demand for 14,983,000 tons, indicating a surplus capacity of 2,433,000 tons. For 1961, world production potential is expected to total 18,008,000 tons and projected demand to total 15,505,000 tons, resulting in a margin of 2,503,000 tons capacity over expected consumption. Much of the expected new capacity for 1960 and 1961 is in other than the major traditional newsprint producing countries. Particularly noteworthy, however, is the current movement being promoted in Canada to allow newsprint mills in all provinces to operate seven days a week. Should this materialize, Canadian newsprint mills could produce an additional 700,000 tons annually on existing newsprint machines.

Grade Switching Possible

Depending upon prevailing market conditions and industry profit incentives, some of the world production capacity reported as available for newsprint may be diverted to production of other grades, or vice versa. In the past, economic factors relative to production and markets have frequently caused a diversion of newsprint capacity to other grades, more particularly to groundwood printing papers.

U. S. Biggest Consumer

The United States continues to be the outstanding market for newsprint, consuming approximately one-half of total world demand. Actual U.S. newsprint consumption (adjusted for inventory changes) in 1959 amounted to 7,045,000 tons, compared with 6,515,000 tons in 1958, 6,780,000 tons in 1957, and 6,807,000 tons in 1956. In 1959 a strong recovery in domestic newsprint consumption followed the 1957 and 1958 declines caused by the business adjustment cycle in those 2 years. Consumption in 1960 is expected to be about 7,325,000 tons, the same as projected in the BDSA 1957 basic report on supply-demand. Consumption in 1961 is mathematically projected at 7,510,000 tons, on the basis of the long-term annual growth trend.

U.S. newsprint capacity was 2,100,000 tons in 1958 and 2,390,000 tons in 1959. Estimates for 1960 are 2,400,000 tons and for 1961, 2,410,000 tons. Additional new domestic newsprint mills are tentatively planned for near-future years, according to industry announcements. Following the decline in U.S. newsprints capacity from 1,739,000 tons in 1926 to a low of 837,000 tons in 1947, new domestic capacity started to grow substantially about 1950. In the past 10-year period, U.S. newsprint capacity increased from 992,999 tons in 1950 to 2,400,000 tons in 1960, more than 140 per cent. Most of the additional capacity has been in the Southern States.

Imports of newsprint continue to be the major source of domestic needs, although in recent years they have tended to represent an increasingly smaller percentage of total domestic consumption. In 1950, imports represented about 82 per cent of consumption. In 1959 imports of 5,262,000 tons accounted for 75 per cent of consumption.

U.S. exports of newsprint have shown a downward trend in the last three years as world newsprint capacity and international competition for world markets increased. They dropped from 174,000 tons in 1957 to 127,000 tons in 1958, and 120,000 tons in 1959.

Rising World Consumption

The trend of rising world newsprint consumption that began at the end of World War II was temporarily halted in 1958. Owing chiefly to a 265,000-ton decline in the world's largest newsprint consuming country, the United States, apparent world consumption dropped to 13,415,000 tons in 1958, 148,000 tons below the revised 1957 record consumption of 13,563,000 tons.

A resumption of the long uptrend in world newsprint demand is expected to be registered for 1959, largely attributable to a 530,000-ton actual increase reported in the United States. Estimated world-demand for newsprint in 1959, at 14,352,000 tons, represents a seven per cent increase over 1958. World demand is estimated at 14,983,000 tons for 1960 and 15,505,000 tons for 1961, or 15.6 per cent above the 1958 level.

Condensed from the third supplemental study by the BDSA of the U. S. Department of Commerce Subcommittee, May 27, 1960.

Preliminary 1959 data on newsprint production in Canada and the United States, at a record 8,314,000 tons indicates a pronounced recovery over the 1958 level of 7,822,000 tons and the previous record of 8,203,000 tons in 1957.

In 1960, 551,000 tons of new newsprint capacity expected to be installed raising the world newsprint production potential to 17,416,000 tons, and in 1961, an additional increase is scheduled, to 18,008,000 tons, compared to an estimated newsprint demand of 15,505,000 tons.

Should Sunday newsprint operations be allowed in all Provinces of Canada, a possibility which is gaining momentum, about 700,000 tons of additional newsprint capacity would be added to the indicated world totals.

Little factual data are available on newsprint expansion plans in the Soviet bloc, although Communist orders for newsprint machines are currently being filled in some countries of the free world. Soviet bloc countries are expected to increase their newsprint potential by 170,000 tons, to 1,110,000 tons, in the 1958-61 period.

NEWSPRINT SUPPLY-DEMAND OUTLOOK

World estimated demand, production potential, import requirements, and export availability, 1959-61; apparent consumption and production potential (maximum production capacity) 1958

[Thousands short tons]

	1958[1]	1959	1960	1961
World total:				
Estimated demand	13,415	14,352	14,983	15,505
Production potential	15,807	16,865	17,416	18,008
Indicated surplus	2,392	2,513	2,433	2,503
United States:				
Estimated demand	6,515	[2]7,045	7,325	7,510
Production potential	2,100	2,390	2,400	2,410
Import requirement	[3]	[4]5,262	5,075	5,250
Export availability	[3]	[4] 120	150	150
Canada:				
Estimated demand	434	[2] 473	485	500
Production potential	7,239	7,520	7,611	7,650
Export availability	[3]	[4]5,953	7,126	7,150
Northern Europe:				
Estimated demand	302	305	310	315
Production potential	1,658	1,740	1,755	1,860
Export availability	[3]	1,435	1,445	1,545
United Kingdom:				
Estimated demand	1,151	1,180	1,240	1,280
Production potential	838	860	950	980
Import requirement	[3]	440	410	420
Export availability	[3]	120	120	120
Western Europe:				
Estimated demand	2,061	2,152	2,239	2,333
Production potential	1,777	1,953	2,028	2,078
Import requirement	[3]	510	514	549
Export availability	[3]	311	303	294
Latin America:				
Estimated demand	679	697	725	755
Production potential	169	195	245	318
Import requirement	[3]	542	527	486
Export availability	[3]	40	47	49
Africa:				
Estimated demand	131	134	139	145
Production potential				10
Import requirement	[3]	134	139	135
Export availability	[3]			135
Asia:				
Estimated demand	919	1,066	1,160	1,247
Production potential	910	1,002	1,172	1,392
Import requirement	[3]	228	227	229
Export availability	[3]	164	239	374
Australia and New Zealand:				
Estimated demand	368	390	410	420
Production potential	176	185	195	200
Import requirement	[3]	245	255	260
Export availability	[3]	40	40	40
China, U.S.S.R., and satellites:				
Estimated demand	885	910	950	1,000
Estimated production potential	940	1,020	1,060	1,110
Estimated imports	[3]	10	10	10
Estimated exports	[3]	120	120	120

[1] For 1958, estimated demand represents apparent consumption.
[2] Apparent consumption.
[3] Not applicable.
[4] Actual data.

Reduced Expansion Programs

The major newsprint-producing countries of the free world, operating well below rated capacity levels in 1958 and 1959, have materially reduced, and in some cases completely stopped, newsprint expansion programs for the early 1960's—in view of the fact that sufficient newsprint production potential exists in the world to cope with any sudden increase in demand for the next few years. At least one Western European country, which has dual-purpose machinery, has been forced to divert its newsprint production capacity to other paper grades because of increased world competition. In April 1960 a large newsprint mill in the Southern United States announced definite plans for converting one of its newsprint machines to the production of kraft papers. Also, a comparatively new paper machine in a British Columbia newsprint mill was designed so that it could readily switch from newsprint to a broad range for kraft papers. The possibility that newsprint mills may utilize their capacity to produce other paper grades depending on market conditions should be given due consideration in evaluating the data on newsprint production potential included in this report.

Increased Capacity Potentials

U.S. newsprint production potential during 1959 amounted to 2,390,000 tons, 290,000 tons higher than in 1958.

The faster increase in newsprint capacity than in newsprint production resulted in a reduction of the production-capacity ratio to 80 per cent for 1959, compared to 82 per cent in 1958. Machine speedups are expected to raise the newsprint production potential slightly, to 2,400,000 tons during 1960 and 2,410,000 tons in 1961.

Canada's newsprint production capacity for 1960 shows a rise of 90,000 tons over 1959, to 7,611,000 tons. An additional increase expected for 1961

Major newsprint producing countries of the free world have materially reduced or completely stopped expansion programs for the early 1960's.

should bring the total to an estimated 7,650,000 tons. These relatively small increases represent the lowest annual additions to Canadian newsprint production capacity in the post-World War II period.

British Columbia is the only province in Canada that allows for Sunday newsprint mill operations. A movement is currently being promoted to gain the approval in other provinces for full seven-day week newsprint production. Should this materialize, existing newsprint machines in Canada could produce annually about 700,000 tons additional.

In Great Britain an intensive newsprint capacity rebuilding program is expected to raise capacity in 1961 to 980,000 tons, about 200,000 tons above the 1957 level. The capacity increase includes the installation of new machines to replace older, slower machines being transferred to the manufacture of other paper grades.

An increase in 1959 of 81,000 tons in the production potential of Sweden and Norway marks the end of the recent capacity expansion programs for these countries, at least through 1961. Finland, on the other hand, is not expected to raise its newsprint capacity appreciably until 1961. She plans to add a total of 200,000 tons of newsprint capacity in 1961 and 1962.

PTJ NEW LITERATURE

Liquid Level Gauges and Valves

Covers practically the complete line of liquid level gauges and valves with a condensed presentation of the most pertinent data and specifications. Catalog 376. Jerguson Gage & Valve Co., Adams Street, Burlington, Mass.

New Liquid Relief Catalog

Describes and illustrates the complete line of safety-relief valves for marine, fire pump, hydraulic pressure systems, liquefied gases, chemical corrosive service and general industrial service. Catalog FE-138. Farris Engineering Corp., 524 Commercial Ave., Palisades Park, N. J.

Nalco Sodium Aluminates

Outlines how the chemical can be used in such industries as chemical processing, cement and mortar, detergent, pulp and paper and others. Also describes the physical and chemical characteristics. Bulletin K 4. Nalco Chemical Co., 6216 W. 66th Pla., Chicago 38, Ill.

Rotary Gear Pump

Describes line of internal and external bearing type Gearex pumps to handle lubricating and non lubricating materials. Also includes data on numerous other models. Bulletin G-3. Sier-Bath Gear & Pump Co., Inc. 9252 Hudson Blvd., North Bergen, N. J.

Stock Condensers

Lists and describes the types and sizes available for immediate delivery. Includes construction drawings, dimension tables, and performance information. Bulletin Supplement 5AA-S. Schutte and Koerting Co., Cornwells Heights, Bucks Co., Pa.

Dodge Products

A new general engineering catalog of 468 pages describes all products in its fast growing line of mechanical power transmission equipment. Dodge Mfg. Corp., Mishawaka, Ind.

Indicating Bellows Meter

Includes detailed information on this meter which combines the characteristics of the mercuryless bellows meter body with a rugged, easy to read 6-inch dial indicator. This can be used for any flow, and open or closed tank liquid level application where recording or transmission is not required. Specification S224-1. Minneapolis-Honeywell Regulator Co., Wayne & Windrim Aves., Philadelphia 44, Pa.

USFPL Issues New Reports

An up-to-date account of the U. S. Forest Products Laboratory's objectives and activities is presented in Report 1698, entitled "The U. S. Forest Products Laboratory." Single copies of this paper and any of the others that follow are available free upon request from the Director, Forest Products Laboratory, Madison 5, Wis. Report 2176, "Training Teen-Aged Trees," presents an illustrated account of the problems encountered in growing trees from seedlings to maturity and suggests some corrective measures. The physiological characteristics of soft-rot fungi and isolation data on over 100 organisms are contained in a report, "Wood-Attacking Capacities and Physiology of Soft-Rot Fungi," No. 2176. Report 1964, Nonplastic Molded Pulp Products, has been revised to include recent information relating to raw materials, equipment, and methods of manufacture of molded pulp items, such as egg cartons, pie plates, florist vases, and toys.

Basic Manual on Mechanical Pulping

A new monograph, entitled "Mechanical Pulping Manual," aimed at groundwood mill operators and the young technical man entering the industry, has just been published by TAPPI. It was prepared under the direction of the Mechanical Pulping Committee of TAPPI.

The Manual contains ten chapters, eight of which are on mechanical pulping history, techniques and equipment, and testing and control. One chapter is devoted to a glossary of terms, and one contains a bibliography of mechanical pulping. Fourteen authors in industry participated in compiling and writing the 183-page publication. It was prepared on the premise that there is a need for a manual describing present equipment and practices used in the manufacture of mechanical pulp in the United States. It has been written to be most valuable to workers making mechanical pulp, and the text, therefore, employs terminology which is in current use in the industry, with a minimum of technical language. The Manual is representative of current practice, but is not intended to be an exhaustive treatise.

Our only serious criticism of the volume is that, although it was published late in the spring of 1960, the bibliography only goes through 1956 with only a few references to articles published in 1957. It is therefore hardly up-to-date, which however does not probably detract too seriously from its purpose of being a basic manual for use by workers in groundwood mills.

Prices of Fibers

MARKET WOOD PULP

SECOND QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$ 82.50/ 90.00	$82.50/ 90.00	§90.00/ —	§80.00/ —	§96.00/ —
Bleached Gw'd	$ 97.50/100.00	$97.50/100.00			
Kraft, Blchd.	‡152.00/160.00				§157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		140.00/ —		
Kraft, Semi-bleached.	140.00/145.00				
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	‡150.00/155.00	‡150.00/155.00	*155.00/ —	*155.00/ —	155.00/ —
Sulphite, Bl. Hdwd.	150.00/ —				
Sulphite, Unblchd.	135.00/ —	135.00/ —	†135.00/ —	*135.00/ —	
Sulphite, Unb'l, Gl'sn		140.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

§ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances.
‡ Depending on Brightness.

COTTON LINTERS

F.O.B. OIL MILLS
WEEK ENDED MAY 24

	Atlanta	Memphis	Dallas	Los Angeles
Grade 1	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	n.a.	n.a.
3	$7.50/7.00	$8.50/7.75	$7.50/7.00	n.a.
4	7.00/6.25	7.25/6.25	6.50/6.25	8.50/ —
5	6.25/5.75	6.00/5.50	6.00/5.50	8.00/7.00
6	5.75/4.75	5.25/5.00	5.25/5.00	6.50/4.50
7	4.75/4.25	4.50/4.00	4.75/4.00	4.25/4.00

WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York	Boston	Chicago	Los Angeles
	June 13	June 13	June	June
No. 1 Mixed Paper	$ 7.00/ 9.00	9.00/ 11.00	6.00/ —	12.00/ 13.00
No. 1 News	12.00/ 13.00	12.00/ 13.00	13.00/ —	12.00/ —
Overissue News (Lg. size)	11.00/ 13.00	11.00/ 13.00	18.00/ —	18.00/ 19.00
Mill Wrappers	19.00/ 22.00	13.00/ 15.00	9.00/ —	12.00/ 14.00
Old Corrugated Containers	22.00/ 23.00	19.50/ 20.00	18.00/ —	23.00/ —
Super Resorted Kraft Paper	35.00/ 40.00	— / —	30.00/ —	55.00/ —
New Double Kr. Ld. Corr. Cuts	32.50/ 35.00	35.00/ —	35.00/ —	35.00/ —
(Semi-chem. medium)	47.50/ —	47.50/ —	45.00/ —	— / —
New 100% Kraft Corr. Cuts	40.00/ 42.50	— / —	57.50/ —	— / —
New Br. Kraft, Env. Cuts	70.00/ 75.00	70.00/ 75.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Unprintd.	60.00/ 65.00	65.00/ 75.00	60.00/ —	60.00/ —
No. 1 Groundwood Shvs.	25.00/ 30.00	25.00/ 30.00	17.00/ —	32.50/ 35.00
White Newsblanks	47.50/ 52.50	47.50/ 52.50	35.00/ —	55.00/ —
No. 1 Soft White Shvs.	60.00/ 65.00	57.50/ 60.00	60.00/ —	75.00/ —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	70.00/ —	— / —
Hd. White Shvs.	85.00/ 90.00	90.00/100.00	85.00/ —	90.00/ 95.00
Hd. White nv. Cuts	100.00/105.00	105.00/110.00	90.00/ —	110.00/113.00
Col. Tab. Cards	42.50/ 45.00	42.50/ 45.00	45.00/ —	40.00/ 45.00
Manila Tab. Cards	62.50/ 65.00	62.50/ 65.00	65.00/ —	70.00/ 75.00
No. 1 Col. Ledger	35.00/ 40.00	35.00/ 40.00	40.00/ —	27.00/ 29.50
White Ledger	48.50/ 52.50	50.00/ 55.00	50.00/ —	50.00/ 55.00
Mixed Book & Mag.†	22.00/ 25.00	— / —	12.50/ —	— / —
No. 1 Books‡	16.50/ 19.00	14.50/ 16.50	27.50/ —	13.50/ 14.00

† Includes Time & Life; no coarse groundwood. § Not to exceed 10% of groundwood.

AVAILABLE FOR PROMPT SHIPMENT

T.B.P.

(Tributyl Phosphate)

OHIO APEX for fmc

• Tankcars
• Tanktrucks
• Drums

IMPORTANT USES:

ANTI-FOAM AGENT

TBP is one of the most efficent chemicals for preventing undesirable foaming in —

THE
1. Manufacturing Process
2. Can Filling Operation
3. Final Application

OF
1. Synthetic Resin Emulsions (paints, etc.)
2. Paper Coating Compounds
3. Adhesives
4. Inks
5. Textile Sizings
6. Detergent Solutions
7. Many Other Systems

WITH
1. Low Cost (in one application as little as one-drop in a one-pint can before filling with a resin emulsion gave 20% more cans per minute than before.)
2. Practically no residual odor.

SOLVENT METAL EXTRACTION

TBP is widely used for the solvent extraction of certain metals and rare earths. At present, in this field, the largest use is associated with the atomic energy processes both in the initial preparation of the ores and the recovery of spent reactor fuels. Our TBP meets the AEC specifications.

OTHER USES

A high boiling solvent for most natural gums and synthetic resins for lithographic inks, etc. TBP is a recommended solvent with excellent blending power for preparing concentrates of 2-4D acid.

TBP is non-corrosive, non-flammable, with a pour point of <—80°C. and a vapor pressure of only 7.3 mm. Hg at 150°C. These properties suggest its use as a functional fluid for a variety of applications: such as a heat transfer medium.

MAY WE SUGGEST you also investigate KP-140 (tributoxyethyl phosphate) as an anti-foam agent.

FOOD MACHINERY AND CHEMICAL CORPORATION

Chemicals & Plastics Division

161 East 42nd St., New York 17, N. Y. Dept. PTJ

PJT NEWS OF SUPPLIERS

R. G. Birkin

J. G. Frischkorn

E. R. Wilbur

K. M. Prytherch

Cleveland Crane & Engineering Co. announces that effective June 1, 1960, all sales activities will be consolidated into one sales department under Robert G. Birkin, general sales manager, and J. G. Frischkorn, sales manager.

The new department will be responsible for the sale of heavy overhead traveling Cleveland Cranes, Cleveland Tramrail overhead materials handling equipment, Steelweld metal-cutting shears, press brakes, straight side and Speed-Draw Presses.

Mr. Birkin has been with the company in various capacities for 33 years. Last year he was appointed sales manager of the Heavy Machinery Division.

Mr. Frischkorn was sales manager of the Cleveland Tramrail Division. He has also worked in the Engineering department and as Cleveland Tramrail district sales manager.

A. E. Staley Manufacturing Co., Decatur corn, soybean and chemical processor, has put in operation a new pilot plant facility to speed development of modified starch products for the paper, textile and other industries.

A miniature starch processing plant built to scale of full-size production equipment, the new pilot facility develops process data on research laboratory findings and produces semi-commercial quantities of new starch products for market development use.

The new modified starch pilot plant has a capacity output of up to 12,000 pounds daily, and provides greater speed, flexibility, and precision control in developmental research and semi-commercial production.

General Aniline & Film Corp., New York, N. Y., has transferred Earl R. Wilbur from the New England branch to the New York-Philadelphia branch of its Dyestuff and Chemical Division.

Mr. Wilbur's responsibilities include sales of dyes and chemicals to the textile trade in the Northern New Jersey area, where he also expects to reside.

Mr. Wilbur will now service the accounts formerly covered by Kenneth M. Prytherch who was promoted to product engineer in the General Dyestuff Co.'s Azo-Condensation department, New York. General Dyestuff is a sales division of the Dyestuff and Chemical Division.

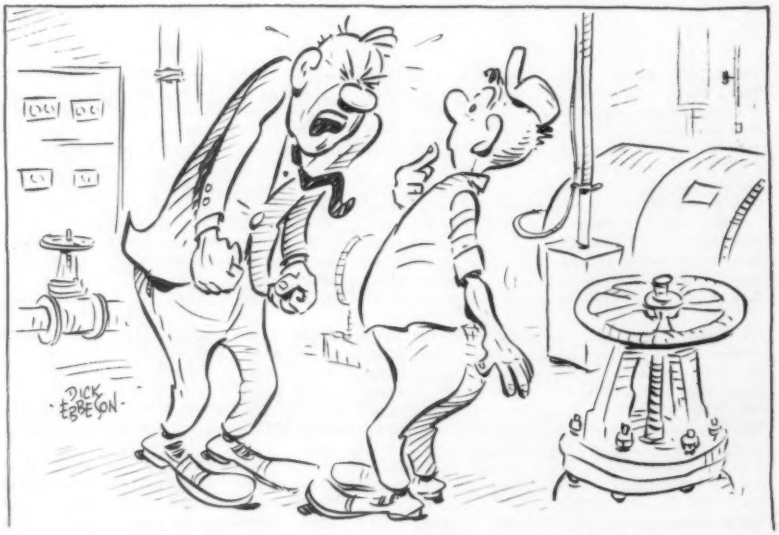
In his new position, Mr. Prytherch will provide liaison between field sales and manufacturing and research activities. The Azo-Condensation department is concerned with acid, basic, chrome, direct and disperse dyes as used by the textile, leather and paper industries.

Allis-Chalmers Manufacturing Co. announces the appointment of Wilson O. Vaughn as manager of the Baltimore district of Allis-Chalmers Industries Group.

Mr. Vaughn, who had been a sales representative in the Richmond district since 1951, succeeds G. H. Carden. Mr. Vaughn came to Allis-Chalmers in 1949 after obtaining his mechanical engineering degree from North Carolina State College.

Mr. Carden has transferred to the Richmond district as a sales representative. After joining the company 30 years ago he served successively as a sales representative in the Buffalo, Syracuse, Baltimore and Washington offices before becoming manager at Baltimore.

Union Carbide Plastics Co., New York, has appointed John H. Rieckers technical sales representative in the New York Metropolitan region. Mr. Rieckers will handle the sale of Bakelite Brand polyethylene, phenolic, styrene and vinyl resins and compounds for molding. He will be located in the company's Clifton sales office at 1051 Bloomfield Avenue, Clifton, N. J.



"One more boner like that and I'll demote you to finishing department superintendent!"

Editor's Note — Our cartoonist obviously has been reading our series, "Something Can Be Done about the Finishing Department."

J. O. Ross Engineering Division, Midland-Ross Corp., has recently installed special testing equipment in its laboratory in New Brunswick, N.J.

The equipment includes a Waldron multi-coater, capable of performing all methods of applying coating to a material, (such as reverse roll, blade, microjet, squeeze, knife, and levelon) an unwind unit, and a rewind unit. Also, Ross has installed an "RD," straight-pass or multi-pass type high velocity dryer, and an "SP," sectionalized type high velocity dryer over a standard steam heated dryer roll. Both high velocity units are of the same type now in operation in many mills across the nation, and are also equipped with a Ross Shell heater that will allow extenive tests using elevated temperatures.

The added equipment and expanded facilities now make it possible to conduct development tests to evaluate together, the applications of high speed drying and coated materials. It will, in effect, represent the coating and drying operations of a mill, within the Ross Laboratory.

According to Jean F. Gschwind, vice president of research and development at Ross, "Combining the latest methods of coating and drying equipment with extended air velocities and temperatures is a significant advancement in laboratory technique and will help many industries to achieve more efficient and productive processing."

Cleveland Crane & Engineering Co., Wickliffe, Ohio, announces that the Cleveland Tramrail Philadelphia Co., 945 South 53rd St., Philadelphia, will represent the Cleveland Tramrail line of overhead materials handling equipment commencing June 1, 1960.

Rodney Hunt Machine Co. has announced the appointment of Michael H. Hartney as sales engineer for the Industrial Roll Division. He will use the Orange office as his headquarters. Mr. Hartney will be remembered by his many friends in the trade from the time a few years ago when he worked with Rodney Hunt.

The Industrial Roll Division of Rodney Hunt manufactures Shaftite Rolls of metal, wood, rubber and plastic for the textile and paper industries. Recently, Rodney Hunt has also been named the sole United States agent for wood fibre rolls and filled calender rolls manufactured by David Bently, Ltd., of Manchester, England.

Adell Chemical Co., Inc., of Holyoke, Mass., has become Lestoil Products, Inc., as final papers were signed closing the sale of Adell and its several subsidiaries to the new corporation. The stockholders of Lestoil Products, Inc., include Standard International Corp. of Andover, Mass., its owners and associates thereof. Sale price and terms of the contract were not disclosed. It is reported that 1959 sales of Adell Chemical were approximately $25,000,000.

John Bolten, Sr., Standard International board chairman, announced that Daniel E. Hogan, Jr., will be the president of Lestoil Products, Inc., with Jacob L. Barowsky, president and founder of Adell, as chairman of the board. Mr. Bolten, Sr., will be chairman of the Executive Committee, which will also include Messrs. Bolten, Jr., Hogan, and Samuel Dennis, III; John Bolten, Jr., will be treasurer and Dennis will be secretary for the new corporation.

Other appointments were also announced: Charles J. McCarthy, vice president in charge of sales; Gale Deam, vice president in charge of manufacturing and assistant treasurer; I. L. Eskenasy, formerly executive vice president, will be executive assistant to the Operations Committee; and Aaron Kingsberg, former controller, will be consultant in the new corporation. Dr. Edwin Stoltz has been appointed vice president in charge of research and development. Other officers of Lestoil Products, Inc. will be announced at a later date.

Noble & Wood Machine Co. of Hoosick Falls, N. Y., has announced the election of William H. Areson as president and chief executive officer of the company, effective July 1. He succeeds Harry N. Weir, chief executive of the company since 1945, who has become chairman of the board.

In addition to Mr. Areson, four new members were elected to the company's board of directors. They are William Pitt Mason, Jr., who will serve as vice chairman; John S. Davison; George S. McKearin, Jr.; and John W. Robb, Jr.

Mr. Areson attended Hamilton College and New York University.

CHAS. T. MAIN, INC.

ENGINEERS

PROCESS STUDIES, DESIGN, SPECIFICATIONS, CONSTRUCTION SUPERVISION

PULP AND PAPER MILLS

STEAM, HYDRAULIC AND ELECTRICAL ENGINEERING REPORTS, CONSULTATION, VALUATIONS

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Long range engineering studies, material flow surveys, space reports, complete design and construction services. Rust experience covers all phases of pulp and paper technology. Write for details.

THE RUST ENGINEERING CO.

PITTSBURGH 22 • BIRMINGHAM 3

W. H. Areson

H. N. Weir

E. L. Rastatter

J. E. Irvine

R. G. Goodwin

T. T. Cowhey

For the past several years, Mr. Areson has been treasurer and a director of Woodward, Baldwin & Co., New York, a leading firm of textile merchants.

The company maintains sales representatives throughout the entire United States and Canada and in many foreign countries. All of the nations leading paper manufacturers and many abroad are included in the company's list of over 500 active accounts.

Bauer Bros. Co., Springfield, Ohio, has announced six executive appointments including four new vice presidents. Five of the appointments went to long-time Bauer employees.

New vice presidents are Edward L. Rastatter, sales; James E. Irvine, engineering; Ronald G. Goodwin, pulping development, and Thomas T. Cowhey, general manager of The Bauer Bros. Co. (Canada), Ltd. Also, Richard R. Dill was named manager of sales, industrial equipment, and Anton J. Horstman was appointed assistant to the administrative vice president.

R. R. Dill

A. J. Horstman

Other Bauer officials include R. J. Shouvlin, executive vice president; Roger J. Shouvlin, vice president, administration; D. R. Shouvlin, Jr., treasurer, and M. E. Ginaven, vice president, product research and development.

Mr. Goodwin, in the newly created position of vice president in charge of pulping development, has had extensive experience in the pulp mill field. A chemical engineer with a degree from the University of Alabama, Mr. Goodwin has 20 years of continuous pulping background with machinery manufacturers and in pulp mills. This includes several years in the technical service department of Allied Chemical Corp's. Solvay Division in Syracuse, N. Y., and with St. Regis Paper Co.

REQUIRED IMMEDIATELY

For

New Kraft Pulp Mill in British Columbia

OPERATORS FOR EVAPORATORS, RECAUSTICIZING, BROWN STOCK, KILN AND ALSO BLEACHERY ASSISTANTS, DIGESTER ASSISTANTS, LAB ASSISTANTS, BALERMEN AND TRADESMEN

Applications for employment are being accepted from fully experienced pulp mill operators and tradesmen for the above positions. Only fully experienced personnel will be considered.

Celgar Limited is building a 500-ton bleached kraft pulp mill at Castlegar, B.C., one of Canada's finest residential locations.

This is a well-established Company offering employment opportunities in a modern mill and attractive welfare plans. Housing assistance and partial moving expenses will be provided.

Experienced personnel are invited to submit a confidential detailed letter of application to:

CELGAR LIMITED

PULP MILL DIVISION
BOX 1000
CASTLEGAR, B.C.

Also see the June 13 issue of this paper for our advertisement covering other positions such as PULPING GROUP LEADERS, MACHINE TENDERS, COOKS, BLEACHERY OPERATORS AND TRADE GROUP LEADERS.

V 5929-2

University of Maine Lectures on Pulp and Paper Manufacture

SERIES NO. 2

A Valuable Textbook for the Paper Industry

Embracing the Complete Lectures as given at the University of Maine.

Three hundred and seventy-three pages and an additional 4-page colored insert of up-to-date material covering a broad field in both pulp and paper making and including many fine illustrations and diagrams.

For students expecting to enter the industry who wish to increase their knowledge and improve their positions, this textbook offers a complete education in pulp and paper manufacture.

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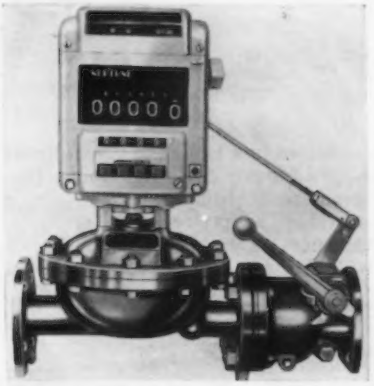
PJT NEW EQUIPMENT & SUPPLIES

Automatic Meter Speeds Corrosive-Liquid Batching

Neptune's 1½-inch stainless steel Auto-Stop meter provides automatic controlled measurement of predetermined quantities for batching and processing systems where corrosive liquids are used. The meter functions almost automatically. The liquid flows unattended until the preset quantity is reached; then the Auto-Stop valve cuts off flow automatically.



The meter is based on the positive displacement principle, with only one moving element exposed to the liquid. Precision-machined clearances between chamber and disc are said to prevent wear or excessive slippage. The Auto-Stop meter has a capacity range from 20 g.p.m. minimum to 100 g.p.m. maximum. The meter is available in a choice of models for every application. Units can be furnished with Auto-Switch control feature, Repeating Auto-Stop, ticket printer, or any combination of these in addition to the Auto-Stop.

In units with Auto-Switch control feature an electric switch is actuated by the Auto-Stop when the predetermined quantity of liquid has been delivered. This switch can be used to start or stop pumps, valves, agitators, signals and other equipment. Meters can be calibrated for U.S. or Imperial gallons, liters or pounds. Once set, the positive-locking calibration adjustment mechanism cannot slip or drift. If changes or corrections are required, they can quickly be made by Neptune's patented gear shifter. Further information is available from Neptune Meter Co., 47-25 34th Street, Long Island City 1, N. Y.

Lift Truck in Three Models Announced

Three lift trucks in the 3,000, 4,000 and 5,000-lb. capacities, respectively, are announced by the Engine-Material Handling Division, Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Designated as the F-30, F-40 and F-50 lift trucks, the lift trucks are powered by Power-Crater gasoline or LP-gas engines developing a maximum 52 h.p.

The models are available with either the standard transmission or, as optional equipment, torque converter drive. Truck design facilitates speedy servicing. Counterweight is of the quick removable type. To service the engine, it is only necessary to tilt forward the driver's seat which automatically is held in place with a mechanical latch.

The emergency brake has two shoes that expand internally to the emergency brake drum for positive holding. It is entirely independent of the standard hydraulic braking system.

Combining to give the new trucks stability, gradeability and steering ease is the 5-in. longer wheelbase and the trunnion-type steer axle mounted in torsional elastic bushings with inclined king pins and centerpoint steering.

Each of the trucks has an oil filter located in the suction line between the reservoir and the pump. The hydraulic lines, wherever possible, are steel tubing.

Extrusion Coater-Laminator Has Many Features

An extrusion coating-laminating machine has been designed by the Waldron-Hartig Division of Midland-Ross Corp., Box 791, New Brunswick, N. J.

This equipment provides many features which are said to give improved operation characteristics and provide maximum versatility. The coater is mounted on track rails for movement of the extruder. This arrangement minimizes floor space requirements and is said to eliminate the needs for extensive mounting stands or scaffolding.

In addition, the entire coater assembly may be raised and lowered by push button controls. This distance between the die jaws and the laminating nip can be adjusted while running. Other adjustments include web alignment controls and positioning of the roll nip in the horizontal plane with respect to the extruded film.

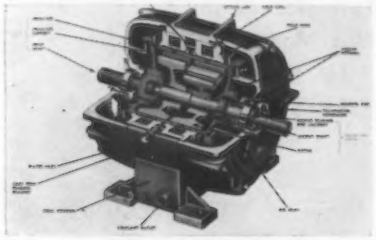
The coater design permits the use of interchangeably sized chill rolls, the 18 inch and 24 inch being the two standard sizes. Rubber or silicone coated pressure rolls from 6 inches to 10 inches can also be employed. A chrome plated water cooled backing roll is provided to cool the rubber roll by surface contact.

The same machine may be adapted to chill roll film casting by the addition of auxiliary rolls and drive

modification. The extrusion coater may be operated from a central control panel. Slitting equipment and walkway accesses are other features of this design.

Magnetic Adjustable Speed Drive in Large h.p. Ranges

Magnetic drives, in ratings from 75 h.p. to 4,000 h.p., have been added to the adjustable speed drive line of



the Louis Allis Co., Milwaukee.

The drives feature simplified design with few moving parts and provide adjustable speed performance over an automatically regulated 20:1 range.

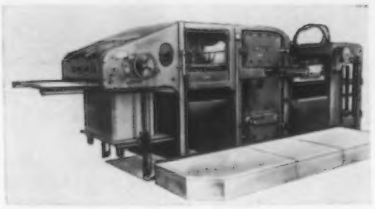
The drive is based on a liquid cooled magnetic coupling design that features stationary field construction, bearings that can be relubricated without disassembly, and a unique cooling system. The cooling system design permits a planned flow of air through the drive at all times and eliminates any possibility of bearing condensation and drive flooding. Since coolant does not contact the adjustable speed member, "water drag" is eliminated and closer, more uniform speed regulation is obtained throughout its range, it is reported.

Magnetic drives operate from a.c. power and are offered as a complete drive package including drive unit with water controls, controller enclosure and operator's station. For complete details, write for Bulletin #3650. The Louis Allis Co., Dept. P, 427 E. Stewart St., Milwaukee 1, Wis.

Automatic Die Cutter For Hot Embossing

A combination die cutting and embossing press is now available from Bobst which features 550 tons pressure and handles sheet sizes to 36¼ x 49½ inches. This combination press has special features for hot embossing on folding box work, states Bobst.

The upper platen is equipped with a built-in heater which does not have to be removed from the press when die cutting. A maximum heat of 320° F. can be obtained and held,



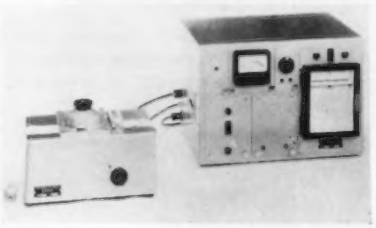
and special provision has been made to allow for heat expansion to protect the vital parts of the press.

The machine is equipped with a special clutch mechanism which can be activated by turning an electric switch. Under normal procedure, the press will run up to 4,500 sheets per hour for die cutting and stripping. When the special clutch is put into operation, the platen will slow down on impression and create what is commonly known as a dwell. With this combination of heat and dwell, it is possible to accomplish excellent embossing results and still have the benefit of a high speed machine.

Bobst paper converting machinery is exclusively handled in the U.S.A. by Thomson-National Press Co., Inc., Franklin, Mass.

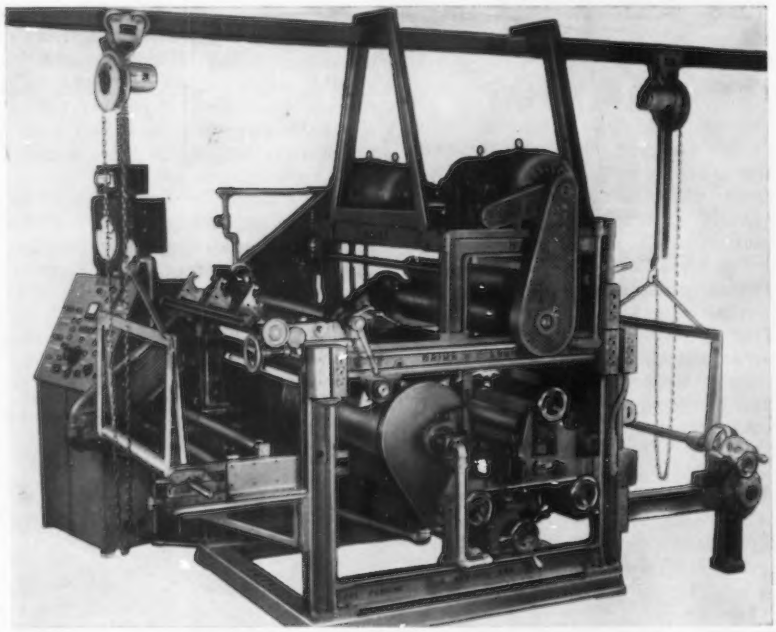
Measures and Records Thickness Continuously

The Arkas (Bendtsen) electronic thickness measuring device developed in Denmark, provides a continuous thickness profile independent of the substance, mass, density, etc. of the measured sample. This measurement of thickness is derived directly from the micrometric displacement of the core of a differential transformer



connected in a bridge to give a linear output for any deviation from a preset state of balance.

Under a pre-selected pressure, thickness is measured on a 2-inch wide strip (generally taken from



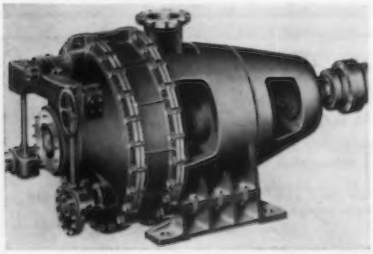
ONE-TIME CARBON COATING MACHINE features variable speed drive and automatic stop in case of paper breakage. Designated Model OH, it is made in three sizes: 40, 50, and 60-inch widths. Two 50-gallon steam jacketed kettles are furnished with piping to the coating unit and include automatic flow and constant dope level control. Other features are: high speed, magnetic brake on mill roll, electronic constant tension unwind and rewind, wrinkle removing unit, variable speed reversible dope roller, automatic stripe carbon units, automatic counter, variable speed reversible buffing roller, slitting unwind, console with electronic push-button controls. Further information may be obtained from the coater's manufacturer, Haida engineering, 34-11 Vernon Blvd., Long Island City 6, N. Y.

across the roll) and recorded on a strip chart. Measuring specifications are: measuring area, 0.2 cm^2; measuring pressure, adjustable from 3-28 lbs/in^2; measuring time, 10 f. p.m.; chart speed, 2-12 in per min.; measuring range, 0-1 mm. The device's sensitivity ranges are: ±.00125 inches in .000005 inch divisions; ±.0025 inches in .0001 inch divisions; ±.005 inches in .0002 inch divisions. Accuracy, guaranteed for one year, is said to be: for the meter, ±1 micron (.001 mm); for the recorder, ±2 microns (.002 mm). Its highest sensitivity is quoted as 1/10 micron (.0001 mm). Reproducibility is reported to be better than 1/10 microns.

The Arkas tester is distributed through Robbins Instrument Co., 110 West 30 Street, New York 1, N. Y. Contact them for further information.

Refiner Has Self-Aligning Rotor

The Disco-Finer, according to its manufacturer introduces automatically self-aligning rotor and stator



plates that remain in parallel relationship. Due to the semi-conical design of rotor and stator, mis-alignment and distortion of discs is eliminated.

The Morden Disco-Finer may be used for either defibering or refining. Conversion is easily made by changing direction of flow and plates. It is self-pumping and self-pressurizing. A variety of refiner plate designs and materials may be used to obtain desired results.

Designed for high production, the Disco-Finer provides 500 to 700 connected horsepower. The manufacturer claims that power consumption per ton of production is very low, and sustained maintenance costs of the Disco-Finer may be at a minimum. For full particulars on the Disco-Finer for refining and defibering, write to Morden Machines Co., 3420 S. W. Macadam Ave., Portland 1, Ore.

Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures
(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	May 7	May 14	May 21	May 28	June 4
1960	97.4	98.5r	97.9r	97.3r	96.8
	May 9	May 16	May 23	May 30	June 6
1959	95.9	97.6	96.6	91.9	94.2

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	96.7	97.9	98.3	97.0	97.5‡	—	—	—	—	—	—	—	—
1959	87.8	96.5	93.2	94.4	95.5	95.6	84.5	96.0	92.4	97.4	96.2	86.6	94.0

‡ Preliminary

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

COMPARATIVE YEARLY SUMMARIES

	1953	1954	1955	1956	1957	1958	1959	1960
Year to Date	94.2	93.6	97.1	101.3	94.8	88.0	92.2	97.6
Year Average	92.3	91.6	96.2	97.9	90.4	87.0	94.0	—

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	May 7	May 14	May 21	May 28	June 4
1960	93	94	95	93	85
	May 9	May 16	May 23	May 30	June 6
1959	94	96	95	97	88

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	92	95	94	92	94	—	—	—	—	—	—	—	—
1959	89	94	95	94	96	96	83	97	92	96	94	80	92

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING June 4, 1960	LAST WEEK ENDING May 28, 1960	CUMULATIVE TO DATE* Jan. 1 to June 4, 1960, incl.
% Activity	85%	93%	93%
Total	289,565	310,595	6,898,791
Containerboard—Domestic Use	147,581	152,359	3,526,465
Liner	97,557	100,737	2,350,072
Corrugating Material	44,814	45,738	1,060,775
Chip & Filler Board	5,210	5,884	115,618
Boxboard—Domestic Use	91,529	99,558	2,169,461
Folding	52,857	61,650	1,299,451
Set-Up	9,082	11,215	248,528
Special Food Board	29,590	26,693	621,482
Other Paperboard	50,455	58,678	1,202,865
Containerboard Type	24,296	29,412	671,424
Boxboard Type	26,159	29,266	631,441
Total Orders			
Received	327,221	313,558	
Unfilled End of Week	480,507	448,196	

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Contents

How to Organize a Better Maintenance Department 7
Planned Maintenance is Productive Maintenance 11
The Consultant's Role in Paper Mill Maintenance 14
A Drafting Board Can Reduce Your Maintenance 16
Maintenance Problems of the Smaller Mill 18
Let's Put Lubrication in a New Perspective ... 20
What an Engineered Lubrication Program Involves 22
Take Care of That Cable 27
What a West Coast Mill Does About Woodroom Maintenance 28
Woodyard and Woodroom Maintenance at Brunswick 31
Groundwood Mill Maintenance 33
Cutting Costs of Pulp Mill Maintenance 37
Maintenance at a Semi-Chemical Mill 40
Maintenance of Black-Liquor Recovery Units .. 42
Use of Protective Liners in Kraft Digesters .. 44
Special Problems of Bleach Plant Maintenance 51
Maintenance of Stock Preparation Equipment 53
Fourdrinier Machine Maintenance Procedure .. 56
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J-20

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1—51" 3-color Flexo Press
1—48" 6 color Cottrell-Heinrich 4-Flexo, 2-Gravure
1—48" Cottrell Heinrich, 3-Flexo, 1-Gravure
1— 42" 4-color Heinrich Tailprinter
1—42" 4 color Cottrell Heinrich Flexo Press
2—42" 4 color Hudson Sharp Central Impression Cylinder Flexo Presses
1—40" 6-color W & H Flexo Press
1—40" 4-color W. & H. Flexo Press
1—33" 6 color Modern Clipper Flexo Press
1—33" 4 color Wolverine Hydro-Printer
1—32" 4-color Schmutz Bag Press
1—31½" 4-color Heinrich Flexo Press
1—28" x 42" 2 color Harris Letter Press
1—26" 2-color Wolverine "Cub" Printer
1—25" 3-color Potdevin Flexo Press
1—24" 2 color Manhasset Flexo Tailprinter
1—24" 5-color Kidder Celloprinter
1—24" 4 color Kohlbach Flexo Press
1—20" 2-color Tail-Printer
1—18" 2-color Potdevin Oil Ink Press
1—2-color #2 Keese Press (Perfect Seal)
2—Harris Presses 1—S-1 & 1—S-4

POWER PAPER CUTTERS

1—44" and 1—65" Seybold Precision with Auto Spacing
1—47" Late-type Seybold Sabre
Seybolds: Dayton: 35", 56" & 84"; 20th Century: 64", 54" & 38"; Holyoke: 55"; 12Z; 85"; 10Z: 65", 50", 44"; 7Y; 34"; 3Y: 32"; Oswegos: 36"; Dexter: 50", 44" & 32"; C & P: 44"; National: 44".

CAMACHINES

102" & 160" Type 18
1—72" and 1—82" 10-10
1—65" Type 9-5
1—62" Type 42 for small rolls
1—52", & 1—42" Model 24-7
1—42", 50" & 62" Type 6

OTHER SLITTERS

1—106" Langston (60" Diameter Rewind)
1—82" Langston Type R
1—65" S & R (Similar Kidder Model C.W.)
1—62" Johnstone Score-Cut Slitter
1—60" Langston Type A
1—60" Inman With Reeves Drive
1—52" Moisel (Shear-Cut)
1—40" & 1—60" Kidder SH, 40" rewind
1—40" Langston "Type A" (Shear-Cut)
1—24", 1—30", 1—36" & 1—40" Kidder S.L. & 1—36" SLN.

MISCELLANEOUS MACHINES

1—Complete Gumming Machine
1—56" Waldron Gum Breaker
1—45" Beck Sheeter Model CSH with Auto-Piler
1—36", 1—45" CSHD Beck Sheeters
2—36" & 1—45" CSH Beck Sheeter
1—94" Clark-Aiken Sheeter with Layboy
1—78" & 1—94" M & W Sheeter & Layboy
Hamblet Sheeters—32", 45", 64", & 104"
1—48" Mamco Layboy
1—Simplex 7-24 Pouch Machine
2—PO-5 Rotobag Machines
1—Poly Garment Bag Machine
1—Beasley French Bag Machine
1—Potdevin Model 110-L Cello Bag Machine
2—Potdevin (Model 111-S) F & S Cello Bag Machines. Electric Eye
1—Weber Model "CN" Cellophane Satchel Bottom Bag Machine
1—Model 4-S & 1—Model 5 Potdevin Sack Machines
2—38" x 24" 4-Post Seybold Die Presses
5—Sheridans: 66" x 44", 60" x 30", 50" x 24", 44" x 22" & 36" x 18" and 1—Ford-Smith: 48" x 40"
1—V-Shape 6 oz. Paper Cup Machine
1—40½ Hudson Sharp Toilet Tissue Interfolder
1—72" H/S Wax Roll Rewinder
Embossers 48", 38", 32" & 50" Heavy Duty Hudson Sharp Tinter-Embosser
1—13½ x 13½ Hudson Sharp ¼ Folder
1—26½" x 22" Mosstype Rubber Plate Mounter & Proofer
1—22" x 32" Thompson Cutter Creaser
1—44 x 22 Sheridan Helical Gears
1—24" Schultze Rewinder
6—12" Schultze Rewinders

J-8

BARKING DRUM

1—12 ft. diameter x 45 ft. long

BEATERS

2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54" x 48", cast iron tubs.

CALENDER STACKS

1—3 roll 84" calender stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—5 roll 82" face.
1—5 roll 86".

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1—96" Murray 4 knife Chipper—anti-friction bearings.
1—84" 10 knife Casthage Chipper. Anti-friction bearings, with motor

COATER

1—42" Chapman Extrusion Type Coater

CONSISTENCY REGULATOR

1—Poirier Stainless Steel, new condition

CRUSHER & HAMMERMILL

1—Murray Chip Crusher.
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1—Jeffrey Shredder.

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1—30" diameter x 72" face.
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1—12 Plate "Packer".

HOGS

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JORDANS

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1—Noble & Wood Monarch, Type D, anti friction bearings.
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1—Cady Micrometer.
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2—Elmendorf Tear Testers.
1—Hermann Disintegrator (new).
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2—Bird Centrifflers

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PUMPS

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1—84" 3 bowl revolving reel.
1—86" 2 bowl reel.
1—100" Rice Barton 2 bowl Reel, heavy duty.
1—116" Downingtown, 2 bowl, antti friction bearings.
1—123"—3 bowl Revolving Reel.
1—134" 2 drum.

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2—L-4 Nash.
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J-20

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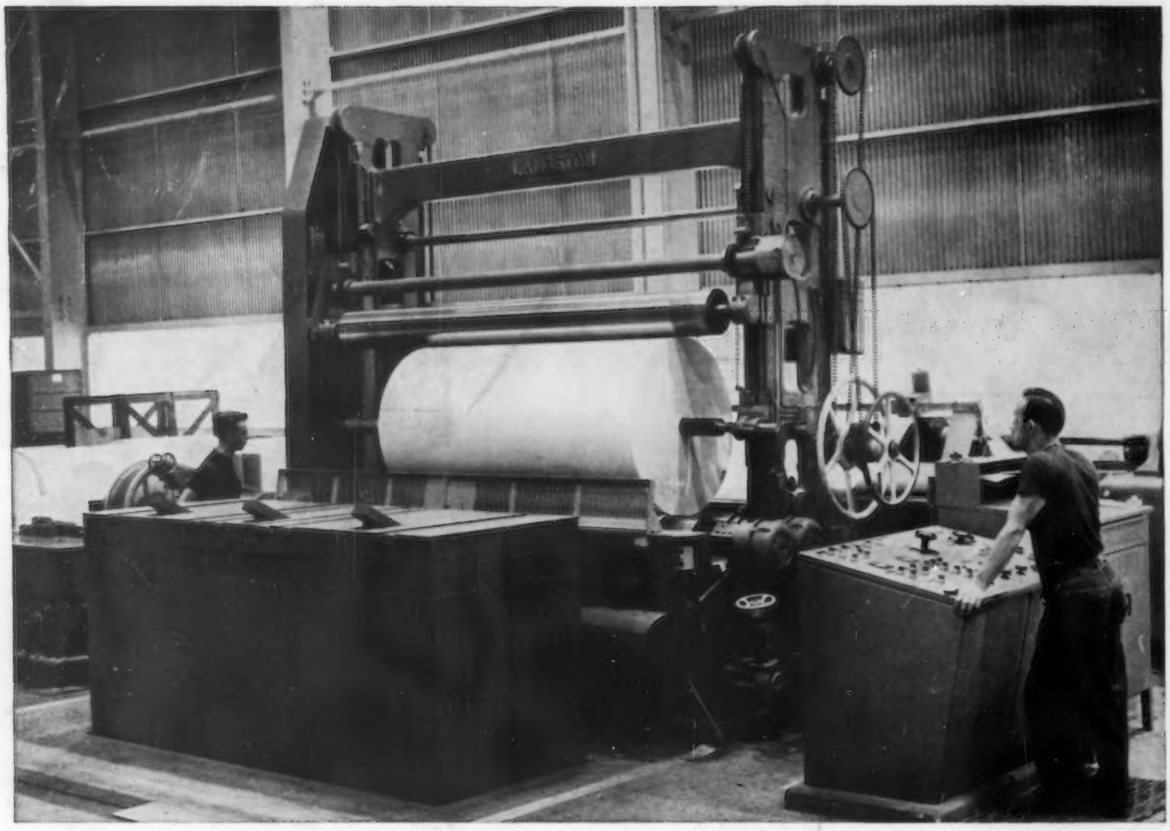

One of the two 104-in. Langston Slitters and Winders in the Glatfelter mill completing rewind. Roll drop table in foreground is up, ready to receive roll when ejected by the winder, and chocks are in raised position to stop the roll. Note console incorporating all major indicators and controls.

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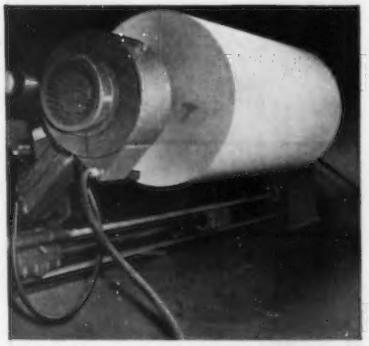

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